



Issue #192

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Editorial

Welcome to the latest issue of Full Circle

Happy birthday to all! This month marks SIXTEEN YEARS of Full Circle! Incredible.



This month we're overflowing with; Python, Latex, FreeCAD, Inkscape and more on Stable Diffusion. Elsewhere, we have a couple of interesting articles. One on whether Apple devices are still relevant for us Linux users and the other on whether ChatGPT is up to the task of writing LibreOffice code. I wonder if ChatGPT can make Full Circle for me? Probably not. Having said that, I'm sure it'd be better than me at spotting all my mistakes.

This month brings to a close the 22.10 reviews from Adam. It's almost time to fire up 23.05. All going well, we'll have a review on Ubuntu 23.05 for you next month. To close off 22.10 we have Ubuntu Unity and

SpiralLinux. I hadn't heard of SpiralLinux before, but I certainly like the look of it.

With the incoming 23.05 I'm tempted to try KDE again, but I'm swayed away from Kubuntu since it uses those blasted snaps that I hate so much. I have snaps disabled on my current 22.10.

Don't forget: we have a Table of Contents which lists every article from every issue of FCM. Huge thanks to Paul Romano for maintaining: <https://goo.gl/tpOKqm> and, if you're looking for some help, advice, or just a chinwag: remember that we have a Telegram group: <https://t.me/joinchat/24ec1oMFO1ZjZDc0>. I hope to see you there. Come and say hello.

All the best for 2023! Ronnie
ronnie@fullcirclemagazine.org



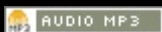
FCM PATREON : <https://www.patreon.com/fullcirclemagazine>

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NEWS

Submitted by ErikTheUnread

Full Circle Weekly News



<http://fullcirclemagazine.org/feed/podcast>

[http://www.stitcher.com/s?](http://www.stitcher.com/s?fid=85347&refid=stpr)

[fid=85347&refid=stpr](http://www.stitcher.com/s?fid=85347&refid=stpr)

<http://tunein.com/radio/Full-Circle-Weekly-News-p855064/>

<https://player.fm/series/the-full-circle-weekly-news>

Release of GnuCash 5.0:

27/03/2023

GnuCash 5.0 was released, providing tools for tracking income and expenses, maintaining bank accounts, managing information on stocks, deposits and investments and planning loans. With GnuCash, it is also possible to maintain accounting for small businesses. The import of data in QIF/OFX/HBCI formats and visual presentation of information on graphs are supported. The project code is supplied under the GPLv2+ license. There is a GnuCash for Android too. Ready-made builds are prepared for Linux (flatpak), macOS and Windows.

<https://lists.gnucash.org/pipermail/gnucash-announce/2023-March/000388.html>

BlenderGPT plugin announced:

27/03/2023

A small BlenderGPT plugin has been prepared for the 3D modeling system, which allows you to generate content based on tasks defined in natural language. The interface for entering commands is decorated in the form of an additional "GPT-4 Assistant" tab in the sidebar 3D View, in which you can enter arbitrary instructions (for example, "create 100 cubes in random places," "take the available cubes and make them different size") and immediately get the result. The code is written in Python, it takes a little over 300 lines and is distributed under the MIT license.

The principle of operation is to transfer a text query to the ChatGPT chatbot using the GPT-4 model through the openAI API, adding a note "Can you write Blender code for me that the following address" Next, Python code is retrieved from the answer and executed as a script in Blender. All you need for it to work, is the access key to the OpenAI API (shows in the menu with the add-on parameters). The generated code can be

tracked via the Windows > Toggle System Console.

<https://github.com/gd3kr/BlenderGPT>

Ubuntu Touch OTA-1 Focal, translated on Ubuntu 20.04:

27/03/2023

The UBports project, which took over the development of the mobile platform Ubuntu Touch, after Canonical withdrew from it, published an update to the firmware: OTA-1 Focal. The project is also developing an experimental port of Unity 8, which is renamed Lomiri. The updated output summed up almost three-year work on Ubuntu Touch porting on Ubuntu 20.04 (the previous releases were based on Ubuntu 16.04). The update of Ubuntu Touch OTA-1 Focal is built for smartphones like the Fairphone 4, Google Pixel 3a, Vollaphone 22, Vollaphone X and Vollaphone.

<https://ubports.com/blog/ubports-news-1/post/ubuntu-touch-ota-24-release-3872>

Debian 9 Stretch moved to archive:

27/03/2023

Debian 9 (Stretch) repositories are moved to archive.debian.org, after that the distribution will soon cease to be available through the main network of mirrors. Deletion of Debian 9 from the main archive is scheduled for April 23.

The release of Debian 9 was presented on June 18, 2017 and was maintained regularly until July 18, 2020, and in the LTS branch until June 30, 2022. The extended Extended LTS program will be publishing updates in a separate repository until June 30, 2027, with the elimination of vulnerabilities in a limited set of Debian 9 packages for the amd64, armhf and i386 architectures.

<https://lists.debian.org/debian-devel-announce/2023/03/>

[msg00006.html](#)

Release Ventoy 1.0.90:

28/03/2023

Ventoy 1.0.90 tools designed to create bootable USB portables, including several operating systems, has been published. The program is notable for the fact that it allows you to download the OS from unchanged ISO, WIM, IMG, VHD and EFI images, without requiring unpacking the image or reformatting the media. For example, it is enough to simply copy to USB Flash with the Ventoy downloader of interest a set of iso-images and Ventoy will provide the ability to load the operating systems inside. At any time, you can replace or add new iso-images simply by copying new files, which is convenient for testing and previewing various distributions and operating systems. The project code is written in C and distributed under the GPLv3 license.

In the new version, the number of supported iso-image has been brought to 1,100. They added support for LibreELEC 11 and Chimera Linux distributions and implemented optimization for the process of downloading Fedora Linux, solved the problem with the definition of installation builds Fedora Rawhide. The VTOY_LINUX_REMOUNT option on systems with Intel Gen11 + CPU and Linux 5.18 + cores has been established.

https://www.ventoy.net/en/doc_news.html

Release of Porteus Kiosk 5.5.0:

28/03/2023

After a year of development, the release of the Porteus Kiosk 5.5.0 distribution, based on Gentoo and designed for self-service terminals, was published. The bootable image of the distribution is 170 MB (x86_64).

The basic build includes only the minimum set of components

required to run a web browser (supported by Firefox and Chrome), which is reduced in its capabilities to prevent unwanted activity in the system (for example, it is not allowed to change settings, they blocked download/installation of applications and you can open only access to the selected pages). Additionally, you can offer specialized Cloud builds for easy work with web-applications (Google Apps, Jolicloud, OwnCloud, Dropbox) and ThinClient to work as a thin client (Citrix, RDP, NX, VNC and SSH) and Server to manage the kiosk network.

In the new edition things like Porteus Kiosk Server "Premium" administrator panel added the ability to monitor the battery capacity of connected customer.

<https://porteus-kiosk.org/news.html#230327>

Release nginx 1.23.4 with default TLSv1.3:

28/03/2023

The release of the main branch of nginx 1.23.4 was announced, in which the development of new opportunities continues. In parallel, the 1.52.x-supported stable branch made only changes related to the elimination of serious errors and vulnerabilities. In the future, a stable 1.24 branch will be formed, based on off the 1.23.x main branch.

<http://nginx.org/#2023-03-28>

Ubuntu Cinnamon now an official edition of Ubuntu:

29/03/2023

Members of the technical committee managing the development of Ubuntu approved the adoption of the Ubuntu Cinnamon distribution, offering the user environment Cinnamon, among the official editions of Ubuntu. At the current stage of integration with the Ubuntu infrastructure, the preparation of test builds of Ubuntu Cinnamon has already begun and work is underway to organize testing in the quality

control system. If no serious problems are identified, Ubuntu Cinnamon will be among the official builds offered starting from the release of Ubuntu on April 23.

The user environment, Cinnamon is developed by a community of developers of the Linux Mint distribution and is a fork of the GNOME Shell shell, Nautilus file manager and Mutter's window manager, aimed at providing an environment in the classical style of GNOME 2 with support for successful elements of interaction from GNOME Shell. Cinnamon is based on GNOME components, but these components are supplied as a periodically synchronized fork not associated with GNOME external dependencies. From third-party applications, the basic supply of Ubuntu Cinnamon includes LibreOffice, Thunderbird, Rhythmbox, GIMP, Celluloid, gThumb, GNOME Software and Timeshift.

<https://ubuntucinnamon.org/ubuntu-cinnamon-flavor-status-announcement/>

ROSA Fresh 12.4:

29/03/2023

STC IT ROSA has released a bug-fix release of the freely distributed and developed ROSA Fresh 12.4, with the participation of the distribution community, built on the Rosa 2021.1 platform. A free download, designed for the x86_64 platform in versions with KDE Plasma 5, LXQt, GNOME, Xfce and without GUI is available. Users who have already installed the ROSA Fresh 12 distribution will receive an update automatically.

http://wiki.rosalab.ru/ru/index.php/ROSA_Fresh_12.4

Release of Finnix 125:

29/03/2023

After a year of development, the release of the Live Distributive Finnix 125, which is timed to coincide with the 23rd

anniversary of the project, is presented. The distribution is based on Debian and only supports work on the console, but contains a good selection of utilities for an administrator's needs. It includes 601 packages with all kinds of utilities. The size of iso-image is 489 MB.

<https://blog.finnix.org/2023/03/28/finnix-125-released/>

Release of OpenMandriva ROME 23.03:

30/03/2023

The OpenMandriva project was published by OpenMandriva ROME 23.03, a rolling release distribution model. The proposed version allows you to access new versions of packages developed for the OpenMandriva Lx 5 branch, without waiting for the classical distribution. Iso-images with a size of 1.7-2.9 GB with KDE, GNOME and LXQt desktops are prepared to support the download in Live mode. There are also server builds, as well as images for the boards RaspberryPi 4 and RaspberryPi 400.

<https://www.openmandriva.org/en/news/article/openmandriva-rome-23-03>

Release of Blender 3.5:

30/03/2023

The Blender Foundation has published the release of Blender 3.5, suitable for solving various tasks related to 3D modeling, 3D graphics, computer game development, simulation, rendering, compositing, tracking of movements, sculptural modeling, creating animation and video editing. The code is distributed under the GPL license. The finished builds are formed for Linux, Windows and macOS. At the same time, a corrective release of Blender 3.3.5 in the LTS branch was made, for which updates will be forthcoming until September 2024.

<https://www.blender.org/download/releases/3-5/>

Upgrade X.Org Server 21.1.8 and xwayland 23.1.1:

30/03/2023

The corrective releases of X.Org Server 21.1.8 and DDX-component (Device-Dependent X) xwayland 22.1 and 23.1.1, which enables X.Org Server to run X11 applications in environments based on Wayland, have been published. The new versions eliminated a vulnerability (CVE-2023-1393), which can potentially be exploited to increase privileges in systems in which the X-server is executed with root privilege, as well as for remote code execution in configurations that use X11 session redirection, using SSH.

The vulnerability is caused by the appeal to memory after its release (use-after-free), due to the abandonment of an uninhabited pointer on the window in the CompScreen structure after the client's explicit elimination of the Compositor Overlay Window window.

<https://www.mail-archive.com/xorg-announce@lists.x.org/msg01586.html>

IETF standardizes MLS end-to-end encryption protocol:

30/03/2023

The IETF (Internet Engineering Task Force), which is engaged in the development of Internet protocols and architecture, has approved the publication of the MLS (Messaging Layer Security) standard, which defines the protocol for the organization of end-to-end encryption in applications that perform messaging. It is expected that the promotion of MLS will allow to unify the mechanisms of end-to-end encryption of messages in groups covering two or more participants, and to simplify the introduction of their support in the applications.

To review the publication of documents describing the MLS architecture and the protocol used to encrypt messages. MLS implementations are developed in C++ (MLSpp, RingCentral), Go, TypeScript and Rust (OpenMLS, Wickr). The MLS

development uses the expertise of existing protocols used to protect the transmission of messages, such as S/MIME, OpenPGP, Off the Record and Double Ratchet.

The processes of preparation of the specification, work and verification procedures are carried out in parallel, using the methods used in the preparation of the standard TLS 1.3. Such an approach will allow RFC to have several compatible and proven protocol implementations by the time RFC is ready. Currently, the MLS work implementations are already being used in the Webex and RingCentral communication platforms, and the transition to MLS is also planning Wickr and Matrix projects.

The main purpose of creating a new protocol is the unification of means for end-to-end encryption and the introduction of a single standardized and verified protocol, which can be used instead of individual protocols developed by different manufacturers, solving the same tasks, but not compatible with each other. MLS will allow you to use already proven ready-to-use implementations of the protocol in different applications, as well as organize their joint development and verification. The portability at the application level is planned to be implemented at the level of authentication, receipt of keys and confidentiality (compatibility at the level of transport and semantics goes beyond the standard).

<https://www.ietf.org/blog/mls-secure-and-usable-end-to-end-encryption/>

Beta-release of Ubuntu 23.04:

31/03/2023

The beta-release of the Ubuntu 23.04 "Lunar Lobster" distribution is presented, after which a full freeze of the package base was made, and the developers switched to final testing and error correction. The release, which is attributed to the intermediate releases, with updates for 9 months, is scheduled for April 27. Ready test images are created for Ubuntu, Ubuntu Server, Lubuntu, Kubuntu, Ubuntu Mate,

Ubuntu Budgie, Ubuntu Studio, Xubuntu, UbuntuKylin (edition for China), Ubuntu Unity, Edubuntu and Ubuntu Cinnamon.

<https://lists.ubuntu.com/archives/ubuntu-announce/2023-March/000288.html>

DentOS 3.0 is available:

31/03/2023

DentOS 3.0, based on the Linux kernel and designed to equip switches, routers and specialized network equipment, has been published. The project was originally founded by Amazon for network equipment in its infrastructure, but then came under the patronage of the Linux Foundation and among the key participants in the project in addition to Amazon included companies such as Delta Electronics, Marvell, NVIDIA, Edgecore Networks and Wistron NeWeb (WNC). The DentOS code is written in C and distributed under the Eclipse Public License.

The system environment is based on the ONL (Open Network Linux) distribution, which in turn uses Debian GNU/Linux and provides an installer, settings and drivers to run on switches. ONL is developing the Open Compute project and is a platform for the creation of specialized network devices that supports the installation of more than a hundred different models of switches. The composition includes drivers for interaction with indicators used in switches, temperature sensors, coolers, I2C tires, GPIO and S-transceivers. You can use IpRoute2 and ifupdown2 tools, as well as gNMI (gRPC Network Management Interface) tools. YANG data models (Yet Another Next Generation, RFC-6020) are used to determine the configuration

<https://github.com/dentproject/dentOS/releases/tag/v3.0>

Bloomberg has established a fund to pay grants to open projects:

02/04/2023

Bloomberg announced the creation of the FOSS Contributor Fund, aimed at providing financial support to open projects. Once a quarter, Bloomberg employees will select up to three open projects that will be paid grants, to the amount of 10 thousand dollars. The nomination of applicants for grants can be made by employees of different divisions and departments of the company, taking into account their work specifications. The selection of winners will be carried out through voting.

You can note that open software is actively used in the infrastructure of Bloomberg and through the creation of the fund, the company is trying to contribute to the development of popular open projects. The first grants were presented to developers of the platform for analyzing data, Apache Arrow, Curl utilities and Celery message queue processing system.

<https://www.bloomberg.com/company/stories/bloomberg-ospo-launches-foss-contributor-fund/>

The STAR64 goes on sale:

02/04/2023

The Pine64 community, which is engaged in the creation of open devices, announced the readiness of a single-board STAR64 computer, built using the drandice processor StarFive JH7110 (SiFive U74 1.5GHz) based on the RISC-V architecture. The Star64 will be available for the order on April 4 and will be sold at \$70 in the version with 4 GB of RAM and \$90 with 8 GB of RAM.

The board is equipped with 128 MB QSPI NOR Flash, 2.4GHz/5GHz MIMO WiFi 802.11 b/g/n/ac, Bluetooth 5.2, two gigabit Ethernet ports, HDMI 2.0, PCIe slot, SD Card, eMMC, 1 USB 3.0 port, 3 USB 2.0 ports, 3.5mm audio jack, 40pin GPIO. Size 133 x 80 x 19 mm To speed up the graphics, the GPU BX-4-32 from Imagination Technology, which supports OpenCL 3.0, OpenGL ES 3.2 and Vulkan 1.2, are used.

<https://www.pine64.org/2023/04/01/march-update-tablet-bonanza/>

Re-Spawn tournament adds Linux servers:

02/04/2023

On to more fun news, Quinton Delpeche from Gobbo Games has announced the availability of the highly anticipated dedicated server support for both Windows and Linux in version 0.3.3 of the FPS, Re-Spawn. Unlike other early access games, this one fully supports Linux and has been delivering on its promises in every release version. (See the roadmap)

Re-Spawn Tournament is a fast paced, multiplayer FPS in an arena, like Quake Arena, that supports multiple players and won't break the bank. Check out the aggressive pricing here:

https://store.steampowered.com/app/1590010/ReSpawn_Tournament)

If you believe in No Tux, No Bux, then I suggest you wishlist / buy this game on Steam now and support Linux developers.

The game features a special system to let new players get to grips with the game, even when playing with veteran players: "With our unique handicap system, Re-Spawn Tournament will appeal to veterans and new players alike, take on more experienced players with no disadvantage."

<https://store.steampowered.com/news/app/1590010/view/6579236671733131147?l=english>

RT-Thread 5.0:

04/04/02/2023

RT-Thread 5.0, the real-time operating system (RTOS) for IOT devices has been published. The system has been in development since 2006 by the Chinese community and is currently ported to nearly 200 boards, chips and microcontrollers based on x86, ARM, MIPS, C-SKY, Xtensa, ARC and RISC-V architectures. Minimalistic assembly RT-Thread (Nano) requires only 3 KB Flash and 1.2 KB RAM to work. For IoT devices, not limited in resources, a full-featured version is offered, supporting the management of packages, configurations, network stack, graphical interface, voice control system, DBMS, network services and engines for scripts. The code is written in C and is distributed under the Apache 2.0 license.

<https://github.com/RT-Thread/rt-thread/releases/tag/v5.0.0>

Release of Tux Paint 0.9.29:

04/04/02/2023

A release of the graphic editor for children - Tux Paint 0.9.29, is out. The program is designed to teach drawing to children aged 3 to 12 years. Binary builds are available for Linux (rpm, Flatpak), Haiku, Android, macOS and Windows.

<https://tuxpaint.org/latest/tuxpaint-0.9.29-press-release.php>

Fedora FS encryption:

04/04/02/2023

Owen Taylor, the creator of GNOME Shell and the Pango library, part of the Fedora working group for workstations, put forward a default encryption plan for the default system partitions and home user directories in Fedora Workstation.

The advantages of the transition to encryption by default, is data protection in case of theft of a laptop, protection against attacks on unattended devices, maintaining privacy and integrity out the box without the need for unnecessary fiddling.

In the current form, the Fedora installer has an option to encrypt partitions at block level using dm-crypt using a separate password phrase not tied to the user account. This solution highlights such problems as unsuitability for separate encryption in multi-user systems, the lack of internationalization support and means for people with disabilities, the ability to carry out attacks through the loader subsider (installed by the attacking loader can pretend to be the original downloader and request a decryption password), the need to support the framebuffer in initrd to withdraw the password.

<https://lists.fedoraproject.org/archives/list/devel@lists.fedoraproject.org/thread/LYUABL7F2DENO7YIYVD6TRYLWBMF2CFI/>

Available Wayland 1.22:

04/04/02/2023

After nine months of development, a stable release of the protocol, the interprocess interaction mechanism and Wayland 1.22 libraries are presented. The 1.22 branch is backwards compatible at API and ABI level with 1.x releases and contains mainly bug fixes and minor protocol updates. The Weston Composite server, providing code and working examples for the use of Wayland in desktop environments and embedded solutions, is being developed within a separate development cycle.

<https://lists.freedesktop.org/archives/wayland-devel/2023-April/042647.html>

ppp 2.5.0:

05/04/02/2023

The release of the ppp 2.5.0 package (Point-to-Point Protocol), which allows you to organize an IPv4/IPv6 communication channel, using a connection via serial ports or point-to-point connections (for example, dial-up), was announced 22 years after the formation of the last branch. The package includes the pppd background process used to match the connection, authentication and configuration of the network interface, as well as auxiliary utilities pppstats and pppdump. The project code is distributed under the BSD license. The package officially provides support for Linux and Solaris (no-accompanied code for NeXTStep, FreeBSD, SunOS 4.x, SVR4, Tru64, AIX and Ultrix are available).

The last major ppp 2.4.0 branch was released in 2000. A major increase in the version number is due to the introduction of changes that break the compatibility with plugins to pppd, and the complete reworking of the build system.

<https://github.com/ppp-project/ppp/releases/tag/ppp-2.5.0>

Release of OpenShot 3.1:

05/04/02/2023

OpenShot 3.1.0 has been published. The project code is supplied under the GPLv3 license: the interface is written in Python and PyQt5, the video processing kernel (libopenshot) is written in C++ and uses the capabilities of the FFmpeg package, the interactive timeline is written using HTML5, JavaScript and AngularJS. Ready-made builds are prepared for Linux (AppImage), Windows and macOS.

The editor is distinguished by a convenient and intuitive user interface that allows you to edit video even to novice users. The program supports several dozen visual effects, allows you to work with multi-track mounting scales with the ability to move the elements between them, allows you to scale, crop, merge video blocks, ensure smooth flow from one roller to another, to overlay translucent areas, etc. It is possible to convert video with preview of changes on the fly. Thanks to the use of the libraries of the FFmpeg OpenShot project supports a

huge number of video, sound and image formats (including full support for SVG).

https://www.openshot.org/blog/2023/04/06/new_openshot_release_310/

Release of DNF 4.15:

05/04/02/2023

The package manager DNF 4.15, which is used by default in the Fedora Linux and RHEL distributions, had an update. DNF is an offshoot of Yum 3.4, adapted to work with Python 3 and using the hawkey library as a backend to resolve dependencies. Compared to Yum, DNF has a noticeably higher operating speed, low memory consumption and better dependency control.

<https://github.com/rpm-software-management/dnf/releases/tag/4.15.0>

Release of Fonoster 0.4, open alternative to Twilio:

05/04/02/2023

The Fonoster 0.4.0 project, that is developing an open alternative to the Twilio service, is out. Fonoster allows you to deploy a cloud service that provides the Web API to make and receive calls, send and receive SMS messages, create voice applications and perform other communication functions. The project code is written in JavaScript and distributed under the MIT license.

<https://github.com/fonoster/fonoster/releases/tag/v0.4.0>

Vulnerability in the Linux 6.2 kernel:

16/04/2023

The Linux 6.2 kernel has a vulnerability (CVE-2023-1998), which disconnects the protection from Spectre v2 attacks that allow access to the memory of other processes performed in different streams of SMT or Hyper Threading, but on one physical core of the processor. The vulnerability, among other things, can orchestrate a data breach between virtual machines in cloud systems. The problem affects only the Linux 6.2 kernel and is caused by incorrect implementation of optimizations designed to reduce significant overheads when applying protection against Spectre v2. The vulnerability is eliminated in the experimental branch of the Linux 6.3 core.

<https://github.com/google/security-research/security/advisories/GHSA-mj4w-6495-6crx>

Postfix 3.8.0 available:

17/04/2023

After 14 months of development, the release of a new stable branch of the Postfix mail server - 3.8.0, was announced. At the same time, they announced the termination of support for the Postfix 3.4 branch released in early 2019. Postfix is one of the rare projects that combine high security, reliability and performance at the same time, which was achieved thanks to the well-thought-out architecture and a fairly rigid policy of code design and patch audit. The project code is distributed under the licenses of EPL 2.0 (Eclipse Public license) and IPL 1.0 (IBM Public License).

<https://www.mail-archive.com/postfix-announce@postfix.org/msg00052.html>

Release of the Deepin 20.9:

17/04/2023

Deepin 20.9, based on Debian 10, but developing its own Deepin Desktop Environment (DDE) and about 40 custom applications, including a DMusic music player, DMovie's messaging system, DTalk messaging system, installer and install center Deepin Software Center, has a new version. The project was founded by a group of developers from China, but transformed into an international project. All developments are distributed under the GPLv3 license. Loading size iso-image 4 GB (amd64).

<https://www.deepin.org/en/deepin-20-9-is-officially-released/>

Release of digiKam 8.0:

18/04/2023

After almost three years since the formation of the last branch, the program for managing your photo collection, developed within the KDE project was released. The program provides a comprehensive set of tools for import, control, editing and publishing photos, as well as images from digital cameras in raw format. The code is written in C++ using Qt and KDE libraries, and is distributed under the GPLv2 license. Installation packages are prepared for Linux (AppImage, FlatPak), Windows and macOS

https://www.digikam.org/news/2023-04-16-8.0.0_release_announcement/

Release of Vivaldi 6.0:

18/04/2023

The release of the proprietary browser Vivaldi 6.0, developed on top of the Chromium engine, has been published. Vivaldi builds are prepared for Linux, Windows, Android and macOS. The project is distributed under an open license to the Chromium codebase. The browser interface is written in JavaScript using the React library, Node.js platform, Browserify

and various ready-made NPM modules. The implementation of the interface is available in the source code, but under a proprietary license.

The browser developed by former developers of Opera Presto and aims to create a customizable and functional browser that preserves the privacy of user data. The main functions include the surveillance and advertising blocker, note managers, history and bookmarks, private viewing mode, synchronization, cross-cutting, tab grouping mode, sidebar, configurator with a large number of settings, horizontal display mode of tabs, as well as in test mode built-in mail client, RSS-resider and calendar.

<https://vivaldi.com/ru/blog/vivaldi-on-desktop-6-0/>

Release of Fedora Linux 38:

18/04/2023

The release of the Fedora Linux 38 distribution is announced. The products of Fedora Workstation, Fedora Server, Fedora CoreOS, Fedora CoreOS, Fedora Cloud Base, Fedora IoT Edition and Live-builds supplied in the form of backboard environments KDE Plasma 5, Xfce, MATE, Cinnamon, LXDE, Phosh, LXQt, Budgie and Sway are prepared. The builds are formed for x86_64, Power64 and ARM64 architectures. The publication of the Fedora Silverblue builds is delayed as usual.

<https://fedoramagazine.org/announcing-fedora-38/>

Tails 5.12:

19/04/2023

The new release of the specialized distribution Tails 5.12 (The Amnesic Incognito Live System), based on Debian and designed for an anonymous entry to the network, was formed. Anonymous access to Tails is provided by the Tor system. All connections, except traffic over the Tor network, are blocked by the default packet filter. Encryption is used to store user

data in the mode of saving user data between launches. You can download a prepared iso-image, able to work in Live mode, measuring 1 GB.

https://tails.boum.org/news/version_5.12/index.en.html

Release of QEMU 8.0:

20/04/2023

A new release of the project QEMU 8.0 is presented. As an emulator, QEMU allows you to run a program built for one hardware platform on a system with a completely different architecture, for example, to execute an application for ARM on an x86-compatible PC. In virtualization mode in QEMU, the performance of code in an isolated environment is close to the hardware system by directly executing instructions on the CPU and the use of the Xen hypervisor or KVM module.

The project was originally created by Fabrice Bellard to enable the launch of x86 Linux executables on architectures other than x86. Over the years, support for complete emulation for 14 hardware architectures has been added, and the number of hardware devices emulated has exceeded 400. During the preparation of version 8.0, more than 2,800 changes from 238 developers were made.

<https://lists.nongnu.org/archive/html/qemu-devel/2023-04/msg02755.html>

Available now /e/OS 1.10:

20/04/2023

The release of the mobile platform /e/OS 1.10, aimed at preserving the confidentiality of user data, was announced. The platform was founded by Gael Duval, the creator of the Mandrake Linux distribution. The project provides firmware for many popular smartphone models, as well as the Murena One, Murena Fairphone 3 + /4 and Murena Galaxy S9 brands offers the editors of OnePlus One, Fairphone 3 + /4 and Samsung

Galaxy S9 with pre-installed firmware /e/OS. A total of 227 smartphones are officially supported.

The firmware /e/OS is developing as an offshoot from the Android platform (they are used by LineageOS), freed from being linked to Google's services and infrastructure, which allows you to maintain compatibility with Android applications and simplify hardware support, and on the other hand, block the transfer of telemetry to Google servers and ensure a high level of privacy.

<https://e.foundation/leaving-apple-celebrate-earth-day-with-a-sustainable-choice/>

Release of Ubuntu 23.04:

20/04/2023

The release of the Ubuntu 23.04 "Lunar Lobster" distribution has been announced, which is included in the midterm releases. Updates are only for 9 months (support will be carried out until January 2024). Installation images are designed for Ubuntu, Ubuntu Server, Lubuntu, Kubuntu, Ubuntu Mate, Ubuntu Budgie, Ubuntu Studio, Xubuntu, UbuntuKylin (edition for China), Ubuntu Unity, Edubuntu and Ubuntu Cinnamon.

<https://ubuntu.com/blog/ubuntu-desktop-23-04-release-roundup>

Opus 1.4 is available:

21/04/2023

Xiph.Org, that develops free video and audio codecs, has released the Opus 1.4.0 audio codec, which provides high coding and minimal latency in both the compression of high-bit and voice compression in limited bandwidth applications like VoIP-telephony. The reference implementations of the encoder and decoder are distributed under the BSD license. The full specifications of the Opus format are publicly available, free of charge and approved as an Internet standard (RFC 6716).

Opus is characterized by high coding quality and minimal latency in streaming also. Previously, Opus was recognized as the best codec when using the 64Kbit bitrate (Opus overtook competitors such as Apple HE-AAC, Nero HE-AAC, Vorbis and AAC LC). You can note Firefox browser, the GStreamer framework and the FFmpeg package as some of the products that support Opus out of the box.

<http://lists.xiph.org/pipermail/opus/2023-April/004578.html>

Release of Ubuntu Sway Remix 23.04:

21/04/2023

The Ubuntu Sway Remix 23.04, providing a pre-configured and ready-to-use desktop based on the mosaic composite manager Sway, is ready for download. The distribution is an unofficial edition of Ubuntu 23.04, created with an eye to both experienced GNU/Linux users and beginners who want to try the mosaic window managers without the need for their long configuration. They provided, builds for the amd64 and arm64 (Raspberry Pi) architectures.

The distribution includes programs with both graphical interfaces such as Firefox, Qutebrowser, Audacious, Transmission, Libreoffice, Pluma and MATE Calc, and console applications and utilities such as Musikcube music player, MPV video player, Swayimg image viewer utility, PDF Zathura document viewer utility, and other editors.

Another feature of the distribution is the complete refusal to use the Snap package manager, all programs are supplied in the form of ordinary deb packages, including the Firefox web browser, which includes the official PPA repository Mozilla Team. The distribution installer is based on the Calamares framework.

<https://github.com/Ubuntu-Sway/Ubuntu-Sway-Remix>

KaOS 2023.04:

21/04/2023

KaOS 2023.04, a distribution with a continuous update model, aimed at providing a desktop based on the latest releases of KDE and applications using Qt, was released. From the features specific for the design, you can note the placement of a vertical panel on the right side of the screen. The distribution is evolving with an eye on Arch Linux, but supports its own independent repository, with over 1,500 packages and offers a number of its own graphical utilities. XFS is used as a default file system. Builds are published for x86_64 (3.2 GB) systems.

<https://kaosx.us/news/2023/kaos04/>

Manjaro Linux 22.1:

22/04/2023

The Manjaro Linux 22.1 distribution, based on Arch Linux and oriented to novice users, was released. The distribution is notable for the presence of a simplified and user-friendly installation process, support for the automatic identification of equipment and installation of drivers necessary for optimum operation. Manjaro comes as live-builds with KDE graphics environments (3.9 GB), GNOME (3.8 GB) and Xfce (3.8 GB). With the participation of the community, builds with Budgie, Cinnamon, Deepin, LXDE, LXQt, MATE and i3 are additionally developed.

<https://forum.manjaro.org/t/manjaro-22-1-talos-released/139155>

Shotwell 0.32 is available:

23/04/2023

After four and a half years of development, the first release of a new stable branch of the Shotwell 0.32.0 photo management program, was announced. It provides convenient cataloging and navigating capabilities for your collection, supports time and tags, provides tools for importing and converting new photos, supports the execution of typical image processing

operations (rotation, elimination of the effect of red eyes, correction of exposure, color optimization, etc.). It also contains tools for publication in social networks. The program is written in Vala, uses GNOME libraries and is distributed under the LGPLv2.1 license.

<https://gitlab.gnome.org/GNOME/shotwell/-/tags/shotwell-0.32.0>

Release of Rakudo 2023.04:

23/04/2023

The release of Rakudo 2023.04, a compiler for the Raku programming language (former Perl 6) is presented. The project was renamed from Perl 6 as it was not a continuation of Perl 5, as originally expected, but turned into a separate programming language incompatible with Perl 5 at the source level and developed by a separate developer community. The compiler supports the Raku language options described in 6.c, 6.d specifications (default). Simultaneously, there was a release of the virtual machine, MoarVM 2023.04, which forms the environment to start the compiled in Rakudo-code in. The Rakudo compilation is also supported for JVM and some virtual machines for JavaScript.

<https://rakudo.org/post/announce-rakudo-release-2023.04>



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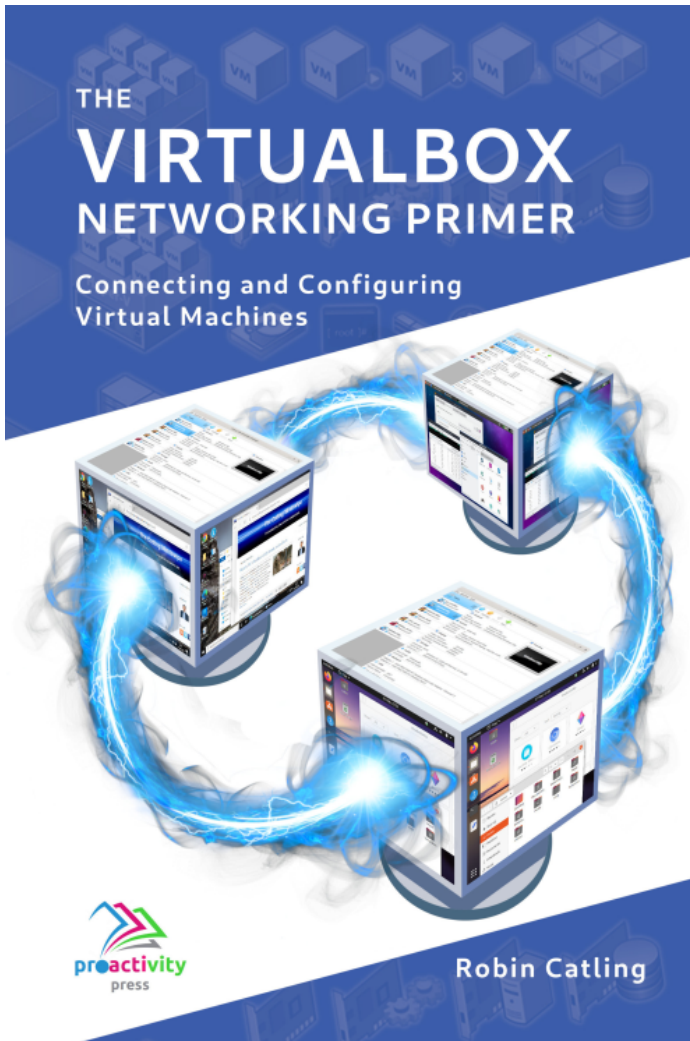
The Ubuntu Podcast covers all the latest news and issues facing Ubuntu Linux users and Free Software fans in general. The show appeals to the newest user and the oldest coder. Our discussions cover the development of Ubuntu but aren't overly technical. We are lucky enough to have some great guests on the show, telling us first hand about the latest exciting developments they are working on, in a way that we can all understand! We also talk about the Ubuntu community and what it gets up to.

The show is presented by members of the UK's Ubuntu Linux community. Because it is covered by the Ubuntu Code of Conduct it is suitable for all. The show is broadcast live every fortnight on a Tuesday evening (British time) and is available for download the following day. podcast.ubuntu-uk.org

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The VirtualBox Networking Primer

Connecting and Configuring Virtual Machines



The VirtualBox Networking Primer is a no-nonsense guide for

the VirtualBox user taking their next steps into virtual networks. While Oracle VM VirtualBox is a great free tool, the real power of virtualisation comes when you start connecting virtual machines to each other and to the wider world. Software development, sales, education and training are just some of the areas in which network access to virtual machines offers endless opportunities. But the world of computer networks is filled with complex technical jargon.

Complete with principles, practice, examples and glossary, The VirtualBox Networking Primer takes the frustration and confusion out of connecting real-world projects.

Author: **Robin Catling**

Publisher: Proactivity Press

ISBN13 : 9781926119482

Amazon US link:

[https://www.amazon.com/dp/1926119484?
ref_=pe_3052080_397514860](https://www.amazon.com/dp/1926119484?ref_=pe_3052080_397514860)

Amazon UK link:

[https://www.amazon.co.uk/VirtualBox-Networking-Primer-Connecting-Configuring/dp/1926119484/ref=sr_1_1?
dchild=1&keywords=virtualbox+networking
+primer&qid=1600253699&s=books&sr=1-1](https://www.amazon.co.uk/VirtualBox-Networking-Primer-Connecting-Configuring/dp/1926119484/ref=sr_1_1?dchild=1&keywords=virtualbox+networking+primer&qid=1600253699&s=books&sr=1-1)

Kobo:

<https://www.kobo.com/us/en/ebook/the-virtualbox-networking-primer>

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Command & Conquer

Written by Erik

So I had to export something from MySQL at work and send it to myself so I could email that to one of our developers. While I still retained some of my know-how when it came to MySQL I almost hit a blank when it came to the compression part. How long has it been since I have archived something on the command line? Donkey's years!! I felt like a total n00b, and here are my thoughts as a 'n00b' as I can totally relate. I'm not going to tell you muscle memory kicked in, rather the ugly truth, I went on to duckduckgo.com and looked it up. Most of this stuff I have not done in 10 years plus. I have been so spoiled by the archivers in the GUI, that I never needed to use it really. Un-archiving was not a problem, but zipping something with sane switches? Having been a wizard with ARJ back in the DOS days, I felt it was time to get reacquainted with compression algorithms. I will start you off with the basics, and try to keep switches out of it.

Let's start with the one everyone knows, zip.

For .zip files it is simple:



Plain ol' zip does not delete the source file once the destination file is created.

Just for completeness sake, zip's opposite is:



What stands out with plain ol' zip is that you can split your zipped files. What you will find, more often-than-not is gzip.

Gzip aims to be a simpler zipper, with only one parameter

needed.



and bam! All your base are belong to us.

Gzip **DOES** delete the source file once the destination file is created.

Again for completeness sake, the opposite is



If you ever need help with gzip, simply type



Bzip or bzip2 that you will see on modern systems works the same as gzip or all intents and purposes. The opposite is bunzip2.

When you install a Linux OS you may have noticed xz. So it may be available everywhere too, and it works just the same as the above, so unxz it is.

I'm not getting into compression ratios or speed here, this is more like an overview to help you remember what goes where.

If you do not need any real compression, simply blobbing files together, there is always tar, the tape archiver. It blobs, it does not delete the source file once done. However, I prefer compressing things tightly that need to be transferred over a network. I hate waiting. With tar, you need to remember switches. IN it will be cfz (yes the c is for compression, but it is meh) and OUT it will be xvf. So honestly, I have probably used it twice in my life, though for some reason I remember the switches as cz for the old Czechoslovakia and fx for effects.

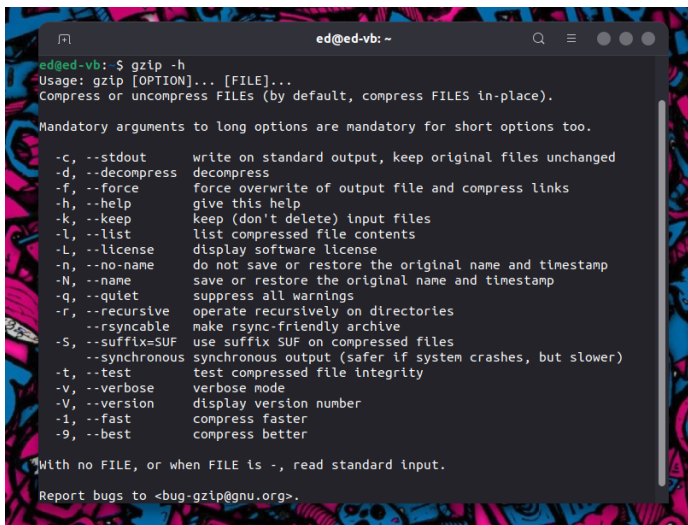
Since remembering what does what, is something I'd rather not do, I'd suggest picking a tool and sticking to it. Whilst it is not

usually found on servers, unless the person setting it up had proper foresight, p7zip would be my poison. I remember that by: “It’s and a and an e and it’s non-destructive” meaning, you use an ‘a’ to archive and an ‘e’ to extract and it does not delete the source file. Though the package is name p7zip (not to be confused with peazip) the command is simply 7z.

That said, I was looking at our logs the other day and I was thinking, if I had to take those, (literally gigabytes in size) I’d use gzip. It is the fastest one on the list above.

Now... Your mission is.... Should you choose to accept it...

Take one of your movie files and use ‘time’ to see how long each one takes to compress and uncompress that movie and draw your own conclusions. You know how to do this, it was three issues ago.

A terminal window with a dark background and a colorful, abstract pattern on the left side. The window title is 'ed@ed-vb: ~'. The command 'ed@ed-vb: \$ gzip -h' has been entered, and the following help text is displayed:

```
Usage: gzip [OPTION]... [FILE]...
Compress or uncompress FILES (by default, compress FILES in-place).

Mandatory arguments to long options are mandatory for short options too.

-c, --stdout      write on standard output, keep original files unchanged
-d, --decompress  decompress
-f, --force       force overwrite of output file and compress links
-h, --help       give this help
-k, --keep       keep (don't delete) input files
-l, --list       list compressed file contents
-L, --license     display software license
-n, --no-name     do not save or restore the original name and timestamp
-N, --name       save or restore the original name and timestamp
-q, --quiet      suppress all warnings
-r, --recursive  operate recursively on directories
--rsyncable      make rsync-friendly archive
-S, --suffix=SUF use suffix SUF on compressed files
--synchronous   synchronous output (safer if system crashes, but slower)
-t, --test       test compressed file integrity
-v, --verbose    verbose mode
-V, --version    display version number
-1, --fast       compress faster
-9, --best      compress better

With no FILE, or when FILE is -, read standard input.

Report bugs to <bug-gzip@gnu.org>.
```

As to the switches. This is the reason I suggest you pick one and stick to it.

Now I’m not saying everything you read here is 100% accurate, my observation skills are not the best, probably why my role play characters always have a really high perception skill, but it should be close enough as dammit is to swearing. To add

insult to injury, I just realised my seed brittle is a sesame seed brittle, that no-one but my budgies will like...

Back in the days of floppies, the split ability was very important, hence my ARJ obsession, but just so you know ARJ, LHA, RAR etc are all still valid. (You may have noticed some files, like when you use NZB are split up into smaller compressed ones.) Just not in a base Linux distro as they are not free or open source. So chances are that your alpine Linux container will not have any, but zip, gzip or xz. Keep that in mind. Should base Linux contain non-free or proprietary compression algorithms? Are free and open source compression algorithms behind the times? Is the network transfer time saved by using better compression, wasted on the compression time itself? Let us know your thoughts.

Did I make a boo-boo? misc@fullcirclemagazine.org

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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HowTo: Python in the REAL World - Part 139

Written by Greg Walters

Over the years, I've talked about various aspects of the Tkinter toolkit that is a part of Python. Tkinter is a wrapper to the Tk/ttk toolkit that is a part of Tcl. For the most part Tkinter has kept up with the updates of Tk/ttk.

Using the Tkinter toolkit provides almost anything you would need to create a GUI for your Python programs. I say almost because there are a few things missing, like a really good spreadsheet widget and a terminal widget. There are third party widgets that will, with a fair amount of work, will do the job, but those things that are missing from the "standard" toolkit leave a fairly large hole.

Anyway, rather than dwelling on the missing parts, we should celebrate what is there.

In my mind, there are two widgets that are extra useful because of the large number of things that can be done with them. The first is the Canvas widget. Not only can the Canvas widget draw lines, arcs, text and other things, it can also hold images and can be a container for other widgets. The other is the Text widget, which is the subject of this month's article.

Anyone who is used to creating GUIs knows that there are two "normal" widgets that support multiple lines of text, the text widget and the Message widget, both of which are part of the "standard" Tk widget set. Both work for displaying multiple lines of text, but the Text widget allows for input of text as well.

Tk Text Widget

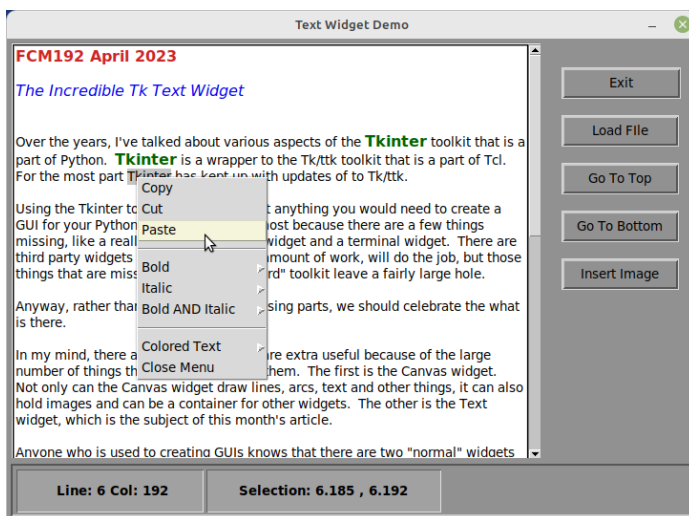
Not only can the Text widget handle simple text display and

entry, there is a lot more that it can do.

- *Mix text with different fonts, colors and backgrounds.*
- *Embed images along with the text.*
- *The Text widget can contain invisible mark objects.*
- *Handle special display handling through a process called tags.*
- *Bind events to a tagged region.*
- *Embed any of the Tk widgets within a “window”. This includes a Tk Frame that contains other widgets.*

In order to help show some of these features, I threw together a small demo. You can get the source code from my repository (see the end of the article).

Here’s what the demo looks like when run...



You can see many of the features “in action” in the image. At the bottom of the form, you can see location indicators, the left showing the Line and Column position of the cursor and on the right is the selection start and end positions.

You can also see the use of tags in the Text widget. There is a tag for Bold, Italic, Bold and Italic, Red foreground, Blue foreground and Green foregrounds.

Indexes

Before we can get to the code, there are some basics that need to be understood. The first is the use of indices which specifies the position of the content in the Text widget window. The index is a string which can be in many different forms.

'line.column'	This is the position just before the column number (zero based) on the line specified (counting from 1). An example would be "1.0" which is the upper left column of the Text window. "5.15" would be the position before the fifteenth character on the fifth line.
'line.end'	This is the position just before the newline character at the specified line (which is counted from 1. So "4.end" would be the last position on line 4. However, if the line has more characters that can fit on one 'visual' line, there can be multiple lines that are counted as one.
tk.INSERT	The position of the insert cursor.
tk.CURRENT	This is the character closest to the mouse pointer. It is only updated, however, if you move the mouse without holding any buttons. If any of the buttons ARE held down, the CURRENT position will be updated ONLY when the button is released.
tk.END	This is the position just AFTER the last character in the buffer
tk.SEL_FIRST	If there is some content currently selected (like dragging the mouse with the Button-1 held down or using the arrow keys with the shift key held down), this refers to the position just before the start of the selection. If you try to use this index when nothing is selected, you will get a tk.TclError

	exception.
tk.SEL_LAST	Similar to the SEL_FIRST, this is the position just after the end of the selection. Again, if you attempt to use this index when nothing is selected, you will get a tk.TclError exception.

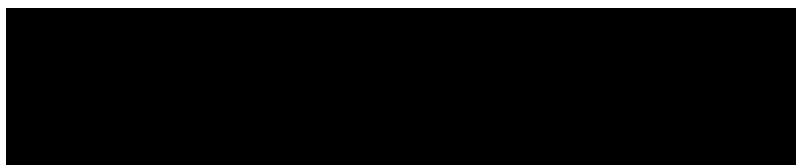
There are other index options, but they are rarely used.

Tags

In my opinion, Tags are the most useful feature of the Text widget. However, if your tag is to include a font, you must define the font before you define the tag. To define a font, you need to import the font module from tkinter.



Once you've done this, you can start to define the font. However, there are a few rules that need to be followed. The most important rule is that if the font name (family) has a space, it must be enclosed not only in quotes, but also in curly brackets. If the font name is a single word, like "Arial", then you just need to enclose it in quotes. The order of the attributes is fairly loose, but from experience, you want to keep to the order of family, size, weight and slant. If you need to include underline or overstrike, those can go last and should be set like "underline=0" for no underline or "underline=1" for underline. The same goes for overstrike. The following line of code would define a font named "fontBodyNormal".



Once you have your font(s) defined, then you can start to define your tag(s). Of course, there is a caveat. There are MANY options available to a tag. The font is just one of the 19

options available. You can find the list of options at <https://www.tcl.tk/man/tcl8.3/TkCmd/text.html> or in the New Mexico Tech Tkinter 8.5 manual at <https://anzelg.github.io/rin2/book2/2405/docs/tkinter/text-methods.html> under the `.tag_config` method.

Basically, the syntax is something like this...



Knowing which of the 19 options to use to create your tag takes experimentation. There are just too many things you can do. One of the neat things that you can set is the relief option. This, like most Tk widgets, is the 3-D effect that will be used to display the tagged text. The choices are “flat”, “raised”, “sunken”, “groove”, “ridge” and “solid”. Then you can set the `spacing1`, `spacing2`, `spacing3` and `borderwidth` to give a very nice 3-D effect that is great for headers when combined with background and foreground colors.

Marks

Marks are invisible objects that are positioned BETWEEN character positions that move with the text. There are a couple of Tk defined marks (INSERT and CURRENT) and any number of user-defined marks that can be created. From my testing, they aren’t really that useful outside of the two Tk defined marks. You will see me use marks later in the code.

Images

The (in my mind) second most useful thing that the Text widget can do is embed images amongst the text. It can be at the beginning of a sentence or paragraph, at the end of a sentence or paragraph or smack dab in the middle of a sentence.

In order to use images in your Text widget, you must remember that the images have to be of the formats that Tkinter natively supports (`.xbm`, `.gif`, `.pgm`, `.ppm` or `.png`). If you want to

support .jpg files, you can, but you need to use the Pillow library.

Similar to tags, you need to use the .image_create() method, which has the syntax of

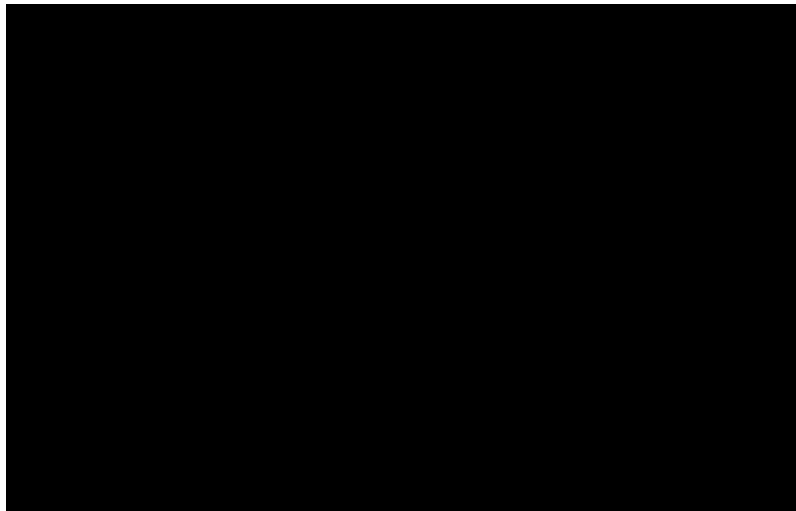


In the code, I decided to use the least number of options.

The Code

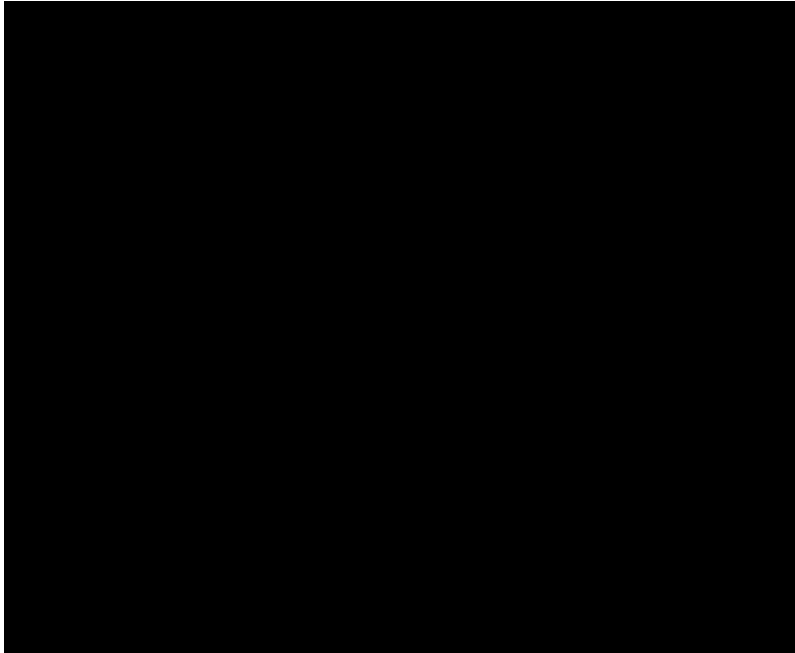
Finally, we can get started with the code. I chose to use PAGE 7.6 to create the GUI for me. There are many reasons for this, but the biggest one is that PAGE provides not only the Text widget but a ScrolledText widget that already has the scroll bars provided.

When I designed the GUI, I used the ScrolledText widget just as it comes “out of the box” with only one attribute changed from the default. That was to set the “wrap” attribute to “word”, which I do 94% of the time. Once I had the GUI created, I started working on the code in the support module. First I needed to add to the import section.

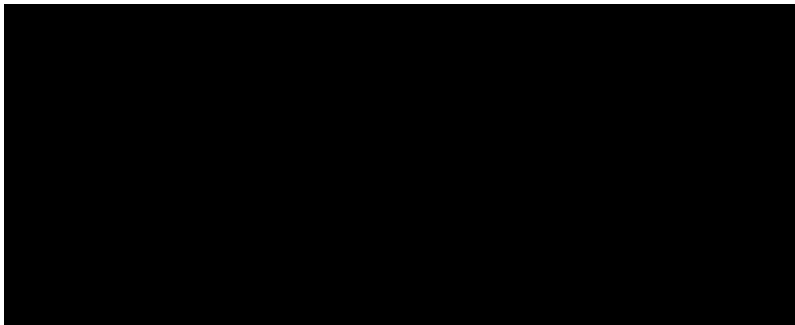


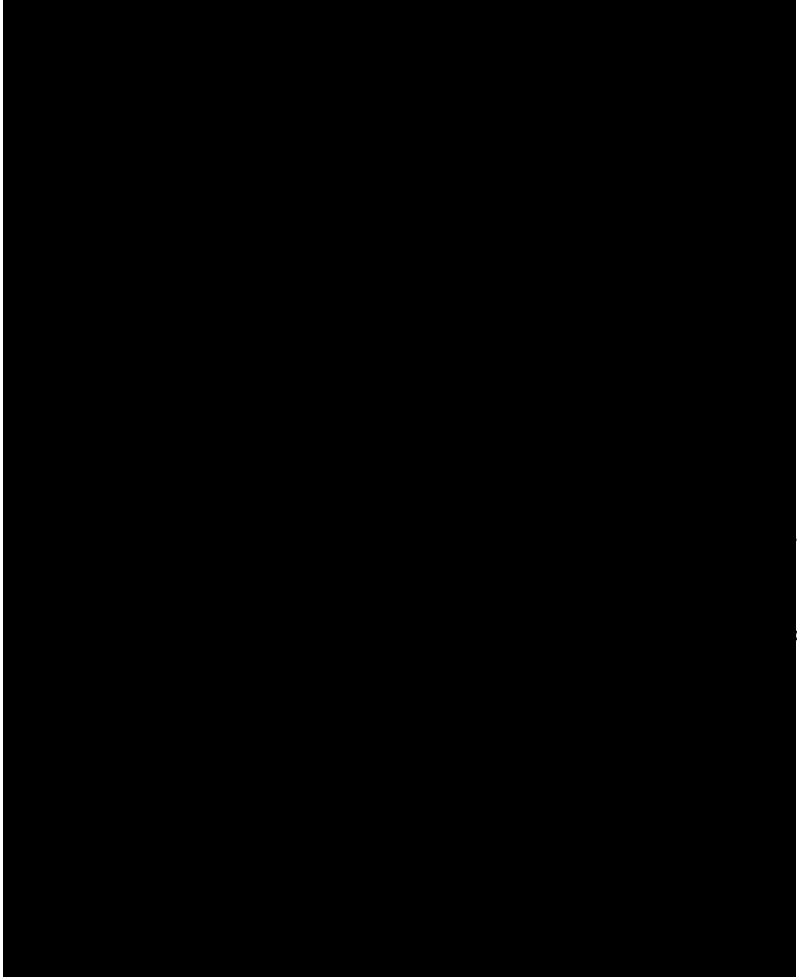
I needed to include the font module from tkinter as well as the messagebox (just in case) and then the filedialog set, so the user can import a text file.

Next, I needed to add a startup module to get things going before the GUI is presented to the user. I set the bindings for the ScrolledText widget, which includes a keystroke event, a Button-1 event and a Button-3 event for the context menu.



It also calls a function that creates the fonts and tags before the Text widget is used. This is not required, but it's much easier to do early on if you know what fonts and tags you want to use. Since this is just a demo I wanted to keep it simple. Here is the code for that.

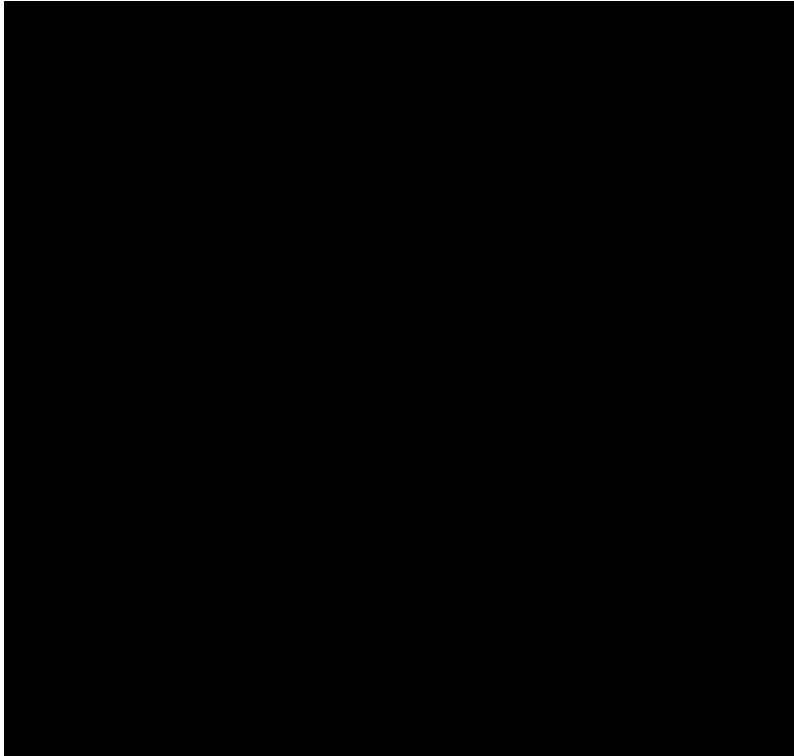




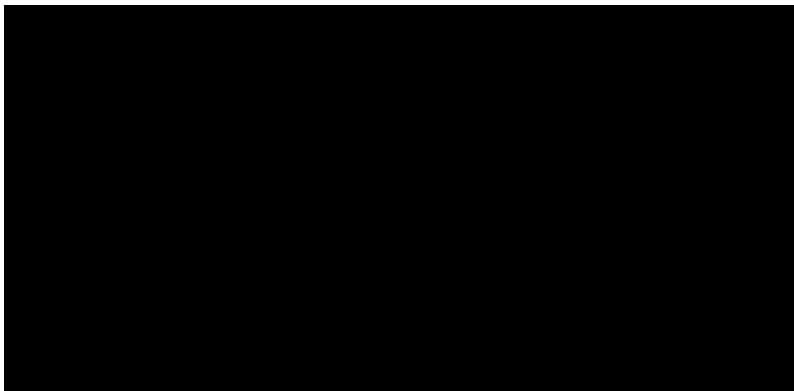
You can see that there are three font focused tags and three color focused tags. The Context menu will allow the user to set the font tags and color tags.

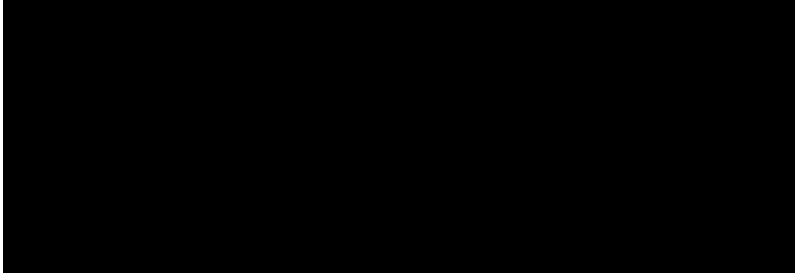
The next function I created was the Keypress callback. I use this to track the INSERT index. I basically query the INSERT index each time a keyboard key is released (better to keep key bounce from sending false signals). It comes in as a “line.column” message. I use the string .find method looking for the period. Then I check the tag_ranges method to see if there are characters that are selected as a “group”. Remember that if you try to use the SEL_FIRST and SEL_LAST indexes and nothing is selected, you will get an error. To avoid that, I call the tag_ranges method to get a tuple containing the First and

Last values. If there is nothing selected, the returned value will be an empty tuple. So by checking the returned value to see if the length is greater than 0, I can safely see if and what the selection is. At the end of the function, I push the information to the two Label widgets at the bottom of the form.



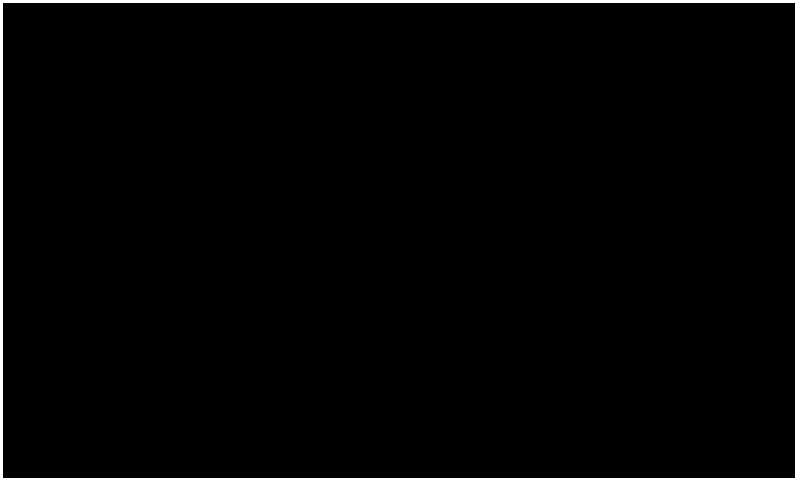
Since the context menu is used to insert the tags (both color and font), they are very similar code wise. Here is the function to make a selection of text to be bold.





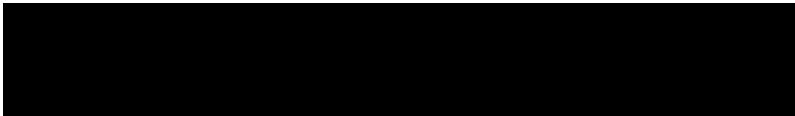
We need to use the `.tag_add` in order to set a tag and it really needs to be a selection group of text. You can see in the function that you need to include the tag name as well as `index1` and `index2`.

To turn the bold off (let's assume you wanted to use italics instead or in addition), you can simply use the `tag_remove` method. Just like the `.tag_add` method, you need to include the tagname, the `index1` and `index2` positions.



There is a `.tag_delete` method, but if you call that, it will completely remove ALL tags of that type AND will delete the definition as well, so you can't use it again until the program is restarted or the tag is added again.

One of the things that you might want to do is programmatically move the insertion cursor. I included two simple functions that will show how to do that. The `on_btnGoToTop` and `on_btnGotoBottom` functions handle this.



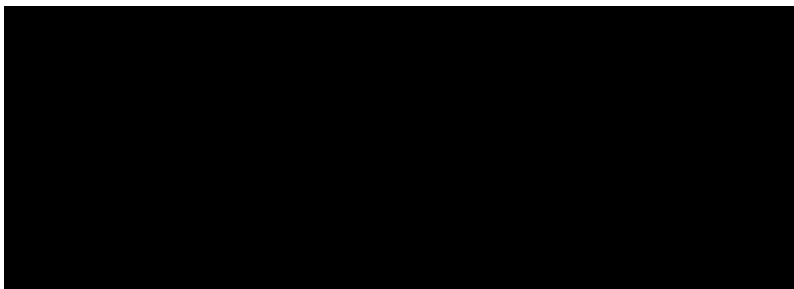


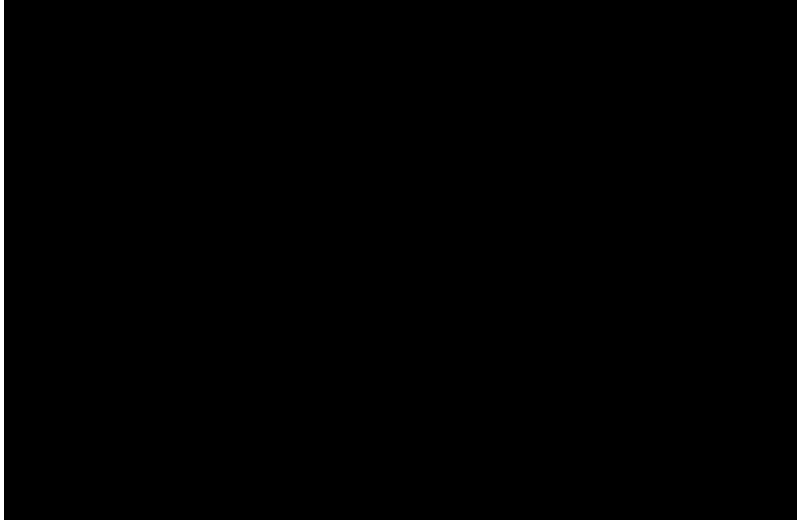
There are only two lines that are needed to accomplish this task. First, we call the `.yview(index)` method which scrolls the Text window to the index position. Then we call the `.mark_set(INSERT,index)` to actually move the insertion cursor.



There is a method called `.see(index)` that does something similar, but depending on the distance that needs to be scrolled, the position set with index, might be at the top, bottom or even in the middle of the Text window. I find the `.yview()` method much better to use.

Next, here is the function that will insert an image. First, like loading a file, we need to use the file dialog `askopenfilename` to get the name of the image we wish to use.






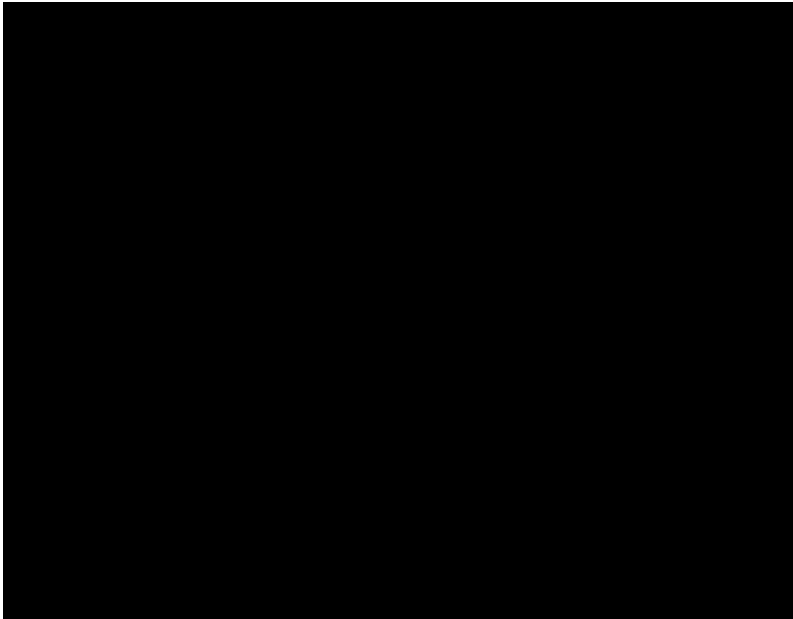
Once we have the filename of the image file, we play some games with the filename. We also need to create a global copy of the file object so that Python's garbage collection doesn't get rid of it before it can actually be seen. The method to insert the image has the following syntax... `.image_create(index,image, image_name, align, padx, pady)`

The align, padx and pady attributes are optional.

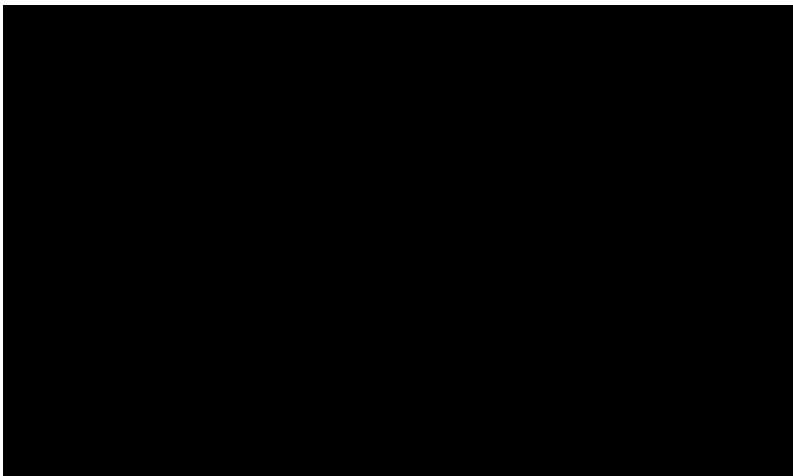
So the image_name is simply a string that is associated with the image itself. I chose to use the filename without the extension or path for this.

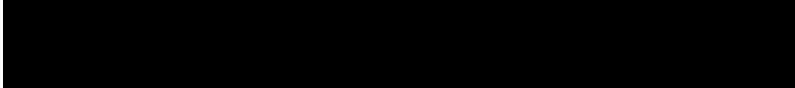


Finally, here is the function that loads a text file into the Text widget. You can see that the first part of the function is almost identical to the one we used to get the image filename.



Now, we clear the text widget (assuming there was a filename chosen) by using the `.delete(index1, index2)` method, then we use the `.insert` method which requires the index and the text and optionally has a tag definition at the end.






Finally, we call `.focus_set()` to return focus to the Text widget.

Conclusion


The biggest downside of Tags is that there can be more than one tag applied to a block of text at any given time. In fact, it is possible that every tag that has been defined can be applied to any given block of text.

This can be a problem, because when there are multiple tags for any given block, the tag that was most recently created is the one that takes control and will be shown. You can use the `.tag_raise()` and the `.tag_lower` methods like this...



To “activate” a different tag in the stack, but you need to know which and how many tags are set for that block of text.

In order to find what tags are set for a block of text, you can use



Which will return a tuple of the tag names that are associated with that text block.

There are many other features that the Text widget provides like search, edit undo and edit redo and more. However, I wanted to try to keep the demo and article down to a reasonable length.

Seriously, I could do half a book just on the Text widget. Here are the links again for the two resources to learn more.

<https://www.tcl.tk/man/tcl8.3/TkCmd/text.html> <https://anzeljg.github.io/rin2/book2/2405/docs/tkinter/text-methods.html>

I sincerely hope that I've been able to give you a new appreciation for the humble Text widget. The best way to learn more about it is to create a sample program and play with all

the available options.

As I normally do, I've placed the source code into a repository on Github at <https://github.com/gregwa1953/FCM192> .

Until next time, as always; stay safe, healthy, positive and creative!

***Greg Walters** is a retired programmer living in Central Texas, USA. He has been a programmer since 1972 and in his spare time, he is an author, amateur photographer, luthier, fair musician and a pretty darn good cook. He still is the owner of RainyDaySolutions a consulting company and he spends most of his time writing articles for FCM and tutorials. His website is www.thedesignedgeek.xyz .*

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HowTo: An introduction to Stable Diffusion - Part 2

Written by Jon Hoskin

Given I am still a bit of a newbie myself, I thought I should note some of the problems I have run into with Stable Diffusion (SD.) In order to support the graphics, I upgraded my computer to a gamer desktop with a Nvidia card. The new system (CYBERPOWERPC Gamer Xtreme VR Gaming PC with an Nvidia GeForce RTX 3060, 12GB) was initially only slightly faster than the CPU option. The screen capture below shows the new computer configurations.



Ubuntu Studio 22.10
<https://ubuntustudio.org>

Software

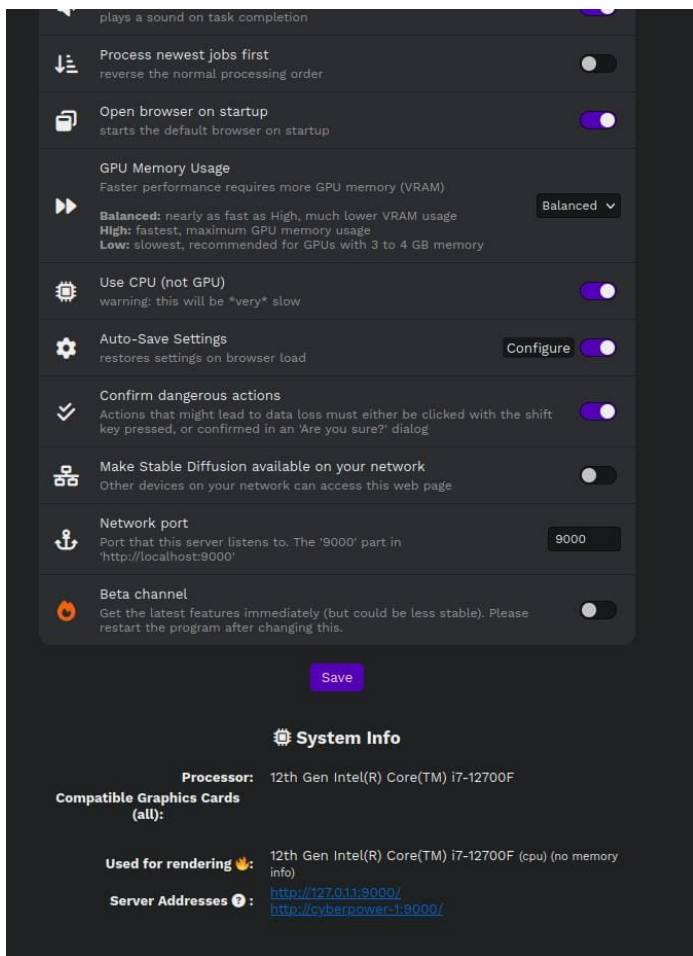
KDE Plasma Version: 5.25.5
KDE Frameworks Version: 5.98.0
Qt Version: 5.15.6
Kernel Version: 5.19.0-1021-lowlatency (64-bit)
Graphics Platform: X11

Hardware

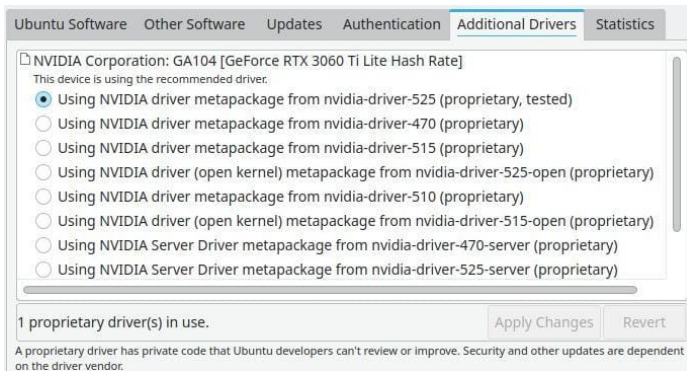
Processors: 20 x 12th Gen Intel® Core™ i7-12700F
Memory: 46.9 GiB of RAM
Graphics Processor: NVIDIA GeForce RTX 3060 Ti/PCIe/SSE2
Product Name: B660M-C

In order to address the slow imaging speed, I looked at the Settings tab in SD and found that it was set to use the CPU not

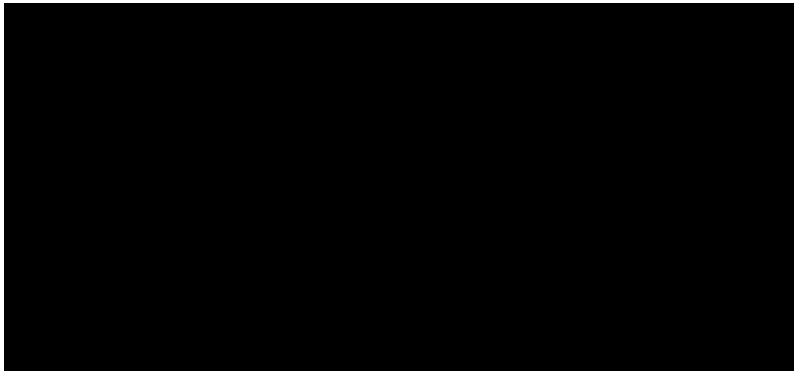
GPU. (Also note the presence of the Beta Channel version option which may fix some issues and add new options.)



I could not turn off the use CPU option, leading me to realize that Nvidia drivers were not installed by default when installing Ubuntu Studio. Nvidia drivers were then installed using the default, proprietary - tested version. A change in the drivers configuration resulted in a dramatic improvement in imaging speed, with the images created in a few seconds instead of minutes.



Eventually another problem arose. While starting SD, I would sometimes see the following line in the terminal and the browser never opened.



To fix the problem, first close the program (type Ctrl + c {Enter}) and then close the Browser tab. I could fix the above problem each time it happened by pasting the command below in the same terminal window:



{Enter} and restart Easy Diffusion:



Thanks to ljbomirb (<https://github.com/NVlabs/instant-ngp/discussions/300>) for this fix.

Afterwards I sometimes ran into the problem again with the CPU selected and the fix was to simply reboot. Looking at the Easy Diffusion Generate panel (current version 2.5.31), changes are often made over several days, see the What's New tab on the top right on the left side of your web browser interface.

As noted in the introductory article, Stable Diffusion part 1, the prompt is the top and likely most important option. It gets saved as part of the image name. Depending on your purpose, you may eventually want to save additional information automatically. To do so, select the Settings tab, next to the Generate tab and with the Auto-Save Images on, select a metadata format such as json or txt. A json file can simply be selected to produce the same file, with txt, information will need to be manually input. Use the full path for the location of your Auto-Saved images.



You may also use the Download images button for a single image. As I understand it, SD is deterministic, and you will normally get the same graphic only if all the parameters are the same. Also while looking at the settings, one item to note is the Block NSFW (Not Safe For Work) images option depending on your environment. Such images may unexpectedly be generated.

The default image size is 512x512 px and if you choose a smaller size, you are warned that small image sizes (less than the default) can cause bad image quality. If only one dimension is smaller than 512 you may not get the warning but the image quality is likely nevertheless of bad quality. Larger image sizes can also have an undesirable effect on the generated image. While trying to generate an image of a baby with wide open eyes with the size set to 1024x1024 px, multiple faces were always created. Reducing the size to the default 512x512 px produced the desired results. You can then move the cursor over the image in question and select the upscale option that pops-up.

When making your first images you will likely be impressed but eventually you will recognize various issues. For example using the prompt “two small possums, photo realistic,” the possums may look cute but are not realistic. They look more like mice and unexpectedly have extra fingers. This is because the generated images are dependent on the images used for training and obviously everything can't be used for training.



Similarly it can't do a Pablo Picasso rendering of yourself because your photographs were also not part of the training. That said, try inputting your name in the prompt and see what you get. I thought I would end with a more desirable image, create something like the below with the prompt library with fireplace burning with a single bay window. No fire is in the fireplace in the below image possibly because the prompt was worded incorrectly but it may be because of the viewing angle. You might want to bump up the number of images to 10 in the options below the prompt to make ten different versions. You may want to hold off on using that parameter if you don't have a more capable graphic card otherwise the wait time may be significant. More about those options next time.



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HowTo: Latex part 20

Written by Robert Boardman

Donald Knuth developed Tex because he was dissatisfied with the way the math in his books was being typeset. He wanted to make a typesetting application that would be easy to use and would work across multiple operating systems. He ended up with an application that writes a set of interlinked text files, readable in any text editor in any operating system. The output can be sent to any screen or printer that understands the PDF command set. For an author this had the added benefit that the produced file could not be changed without the author's knowledge. PDF files were often acceptable to printing shops in the 1970s and 1980s, a time when most word processing formats were not acceptable.

Because of this history Latex / Tex has a comprehensive set of methods and tools to display mathematical expressions. In this issue we are going to explore some of them. If you use TexStudio or a similar IDE you will probably be able to duplicate what you see here and expand on it.

There is an inline math method. It uses dollar signs to wrap around the math expression. A simple example is:



And there is what is called the display mode



The display mode surrounds the math expression with backslash and square brackets. The expression is centered on a line of its own.

In TexStudio there is also a Latex inline math mode. It uses backslash with parentheses (round brackets) to surround the

math expression. A simple example is: $(x^2 + y^2 = 1)$. It does exactly the same thing as the inline method using square brackets.

There is an inline math method. It uses dollar signs to wrap expression. A simple example is: $x^2 + y^2 = 1$. And there is a display mode

$$x^2 + y^2 = 1$$

display mode surrounds the math expression with backslashes. The expression is centered on a line by its own.

In TexStudio there is also a Latex inline math mode. It uses parentheses (round brackets) to surround the math expression. A simple example is: $x^2 + y^2 = 1$. It does exactly the same thing as the inline method using square brackets.

To make the expression a little more complicated without your eyes glazing over if you regard mathematics as evil I will set up the formula for determining the length of the hypotenuse of a right-angle triangle (do you remember Pythagoras from school?). To calculate the length of the hypotenuse use the following formula:

To make the expression a little more complicated without your eyes glazing over if you regard mathematics as evil I will set up the formula for determining the length of the hypotenuse of a right-angle triangle (do you remember Pythagoras from school?). To calculate the length of the hypotenuse use the following formula:



That was not so bad. Now let's try the formula for finding the roots of a quadratic equation. (Again you probably saw this on the board in school.) To find the roots of a quadratic equation first put it into standard form:



Then use the following formula substituting in the values of a , b , c :



I hope you can see the text around this equation is normal but the equation is reduced to fit into one text line. That reduction makes it hard to read. Let's use the display math mode.

To calculate the length of the hypotenuse use the formula $c = \sqrt{a^2 + b^2}$. That was not so bad. Now let's try the formula for the roots of a quadratic equation. (Again you probably saw this in school.) To find the roots of a quadratic equation first put it in the form $f(x) = ax^2 + bx + c$. Then use the following formula substituting in the values of a, b, c : $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$. I hope you can see the text is normal but the equation is reduced to fit into one text line makes it hard to read. Let's use the display math mode.

Then use the following formula substituting in the values of a, b, c :

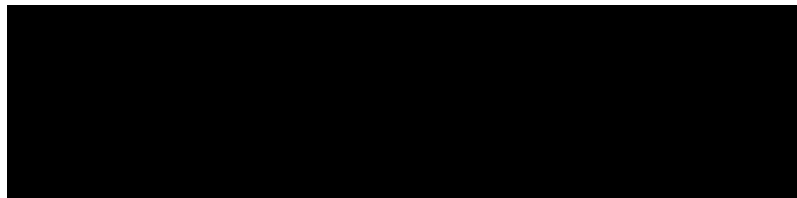
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Then use the following formula substituting in the values of a, b, c :



The instructions for typesetting are in the same order used when writing the formula by hand. 1. Make a fraction 2. numerator $-b \pm$ 3. square root 4. $b^2 - 4ac$ 5. denominator $2a$

With the manual method in mind look at the code needed to make this simple formula.



Let's get a little more complicated and introduce some trigonometric functions. For example, here is the Pythagorean identity $[\sin^2\theta + \cos^2\theta = 1]$ This can be used to find the sine of an angle.

more complicated and introduce some trigonometry. The first expression is the Pythagorean identity

$$\sin^2 \theta + \cos^2 \theta = 1$$

and the second expression is used to find the sine of an angle.

$$\sin \theta = \pm \sqrt{1 - \cos^2 \theta}$$

Because these expressions take up only a single line

Because both of these expressions take up only a single line they could use the inline math method without much loss of legibility. $\sin^2 \theta + \cos^2 \theta = 1$. Normally the lowercase theta is used to represent angular distance. In other applications an uppercase theta is needed. To get an uppercase theta simply make theta start with an uppercase T: Θ . (Note theta is part of the math environment in Latex / Tex. It must have either dollar signs or backslash - square brackets before and after it even when it is a single character.) This method of getting an uppercase Greek letter by using an uppercase letter to start the letter name works with Greek letters in general.

We can move from trigonometry to calculus with a short explanation of differentiation.

The derivative of a function will yield the slope of the line graph generated by the function. The derivative can be expressed as $\frac{dy}{dx}$ or more commonly as $f'(x)$. The general equation for a derivative is

Solving this expression using $f(x) = x^2$ generates the following equation.

When $h = 0$ then $f'(x) = 2x$.

This answer should not surprise you if you have done this much math at school.

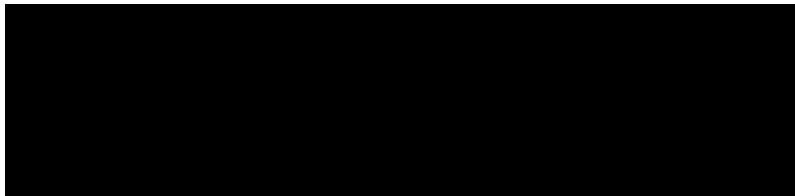
differentiation. The derivative of a function will yield the slope generated by the function. The derivative can be expressed commonly as $f'(x)$. The general equation for a derivative is:

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

Solving this expression using $f(x) = x^2$ generates the $\lim_{h \rightarrow 0} 2x + h$. When $h = 0$ then $f'(x) = 2x$. This answer you if you have done this much math at school.

Here is a simple example of the use of math typesetting. This is a problem I set for my college students. If a processor has a speed (frequency) of 2.2GHz how long does one processing cycle take? In mathematical terms (or physics terms if you prefer) if $f = 2.2\text{GHz}$ how long is one processing cycle, $1 \sim \text{Hz}$? One way to solve the problem is to set up a proportion (a pair of equal ratios) and solve for the unknown.

As we all should know, $2.2\text{GHz} = 2.2 \times 10^9$ cycles per second.



In common computer terms, 1 processing cycle takes 454.5 picoseconds, less than half a nanosecond.

I should know, $2.2GHz = 2.2 * 10^9 \text{ cycles per second}$.

$$\frac{2.2 * 10^9 \text{ cycles}}{\text{second}} = \frac{1 \text{ cycle}}{x \text{ second}}$$

$$2.2 * 10^9 x \text{ cycle} - \text{sec} = 1 \text{ cycle} - \text{sec}$$

$$x = \frac{1}{2.2 * 10^9}$$

$$x = 0.454545... * 10^{-9} \text{ seconds}$$

Above is the Latex code for this little calculation. Figure 5 shows the result in a Latex-generated PDF. Here is what it looks like in LibreOffice.

I hope you enjoyed or at least endured this short visit to the math facilities of Latex. Next time we will explore how to use Latex in chemistry class.

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KILOBYTE MAGAZINE

Kilobyte Magazine is a fanzine for 8bit enthusiasts. It covers consoles, computers, handhelds and more, as well as new games for old systems. If you grew up with Commodore, Atari, Sinclair or Amstrad, this magazine is for you.

<https://retro.wtf/kilobytemagazine/>

How-To: Drawing with Inkscape - Part 132

Written by Mark Crutch

Perhaps the most important addition in Inkscape 1.2 is the ability to support multiple pages in a single document. This is a much requested feature which opens up a lot more power for working with multi-page PDF files (both importing and exporting), though it's not without its limitations, particularly when used on the web. More on that topic next month. This time we'll take a look at how to create and work with multiple pages from within Inkscape itself.

By default Inkscape opens with its traditional single-page view. Whereas many applications might provide a dedicated dialog or menu options for adding and removing pages, Inkscape treats such tasks as more akin to a drawing task than a management one. Gaining access to the new multi-page features therefore requires you to switch drawing tools, choosing the new icon at the bottom of the toolbox (outlined in red).



With the correct tool selected your page will gain a small, square handle at each corner, and the tool control bar will

change to show the initial set of controls for managing pages.



Using the square handles you can dynamically change the size of the existing page on the canvas. I recommend using the bottom-right handle for this for the simple reason that pressing Ctrl-Z will undo this change ‘cleanly’. If you move any of the other three handles then an undo operation will actually cause the page to shift on the screen. The end result is pretty much the same, especially if you pan the canvas afterwards, but the movement is somewhat jarring. It’s also worth noting that these handles don’t honor the usual Inkscape modifier keys for resizing in proportion, or along a single direction, which is a shame.

Manually resizing the page isn’t your only option though. You can use the third control on the toolbar (the page with four arrows pointing to it) to resize the page. If you had no objects selected when switching to the page tool, this button will resize the page to fit the contents; if you had items selected then it resizes the page to fit the selection. Unfortunately there’s no facility to include an offset or margin, so if you don’t want your page boundary to absolutely hug your objects tightly you’ll either have to manually resize afterwards, or add a temporary object to your page that is larger than the combined elements, then delete it afterwards. Unfortunately this same omission is now present in the re-designed Document Properties dialog, which is rather annoying for those of us that prefer to include a little breathing room around our creations.

If you prefer to set your page size to specific dimensions, you can do that using the input field and drop-down combination widget in the tool control bar. Click in the field and enter dimensions with units directly (e.g. 100mm x 100mm). Or select one of the presets from the drop-down list.

So far all we’ve looked at with this ‘multi-page’ tool is how to resize the existing single page. Let’s add a second page to our document, by clicking on the first icon in the tool control bar.

Inkscape creates a new page on the canvas – you may need to zoom out to see both. The new page will be the same size as the previously selected one. Now that you have more than one page you can click in each of them to change the ‘current’ page (the one that will be affected by clicks and changes in the tool control bar), or click and drag inside the page area to move it around on the canvas. With more than one page in the document, the tool control bar itself also gains more widgets:



In the middle we have a pair of buttons that allow you to reorder the pages. Currently the first of the two pages is selected, so the text reads “1/2”. There are buttons for moving the order of the page: the left one is disabled, because we can’t move this page earlier than position 1. The right button is enabled, though, so we could click that to move the selected page to position 2 (effectively swapping the page order, since we only have two pages). Using these buttons also moves the pages around on the canvas, as well as changing the order in which they are listed in the SVG file.

The text field reads “Page 1” in grey text. Inkscape gives each page a default label of this form, if you don’t provide one of your own, in order to help you keep track of which page is the currently selected one. Often it may make more sense for you to name some or all of your pages explicitly. Simply type something into the text box, and the corresponding page on the canvas will be decorated with a small tag at the top-left which shows the name you entered. A manually entered label will be stored as part of the SVG document, whereas the automatic labels are not, and are generated by Inkscape when needed. It’s perfectly okay for you to combine both approaches, using manually defined labels for key pages, and falling back to the automatic “Page n” syntax for the others.

The button after the text field is used to delete the currently selected page. However, the exact behaviour depends on the state of the last button. That last button is actually a toggle, which determines how objects are moved when a page is

moved around the canvas. With it toggled off, the objects and the pages are treated as two entirely separate things. If you move a page, or even delete it, the objects themselves remain unaffected.

Toggle it on, however, and things become more complicated. In that state, any object that intersects with a page that is moved or deleted will also be moved or deleted. The important word there is 'intersects'. When an object is wholly contained within the page boundary, the behaviour makes sense. Move a page, and the contents of the page move with it. Delete a page and its contents disappear too. But this also applies to any object that overlaps with the page boundary, even a little. It might be 99.9% on the canvas, barely touching the page, but it will get dragged around or deleted just the same as something entirely within the page. This can be particularly troublesome when pages are positioned close together, and an object 'bleeds' out of one, and slightly into another. Moving that second page will drag the object with it, even if it was meant to be kept on the first page.

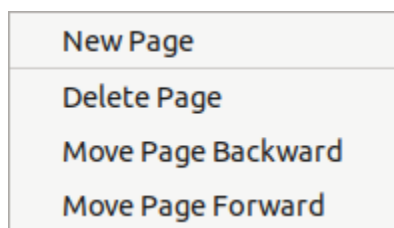
Unfortunately there's no fine control with this. Either every intersecting object moves (button toggled on), or none of them do (button toggled off). There's no way to 'de-select' specific objects prior to the move, or anchor them more tightly to the correct page. In practice it's not usually a huge problem, but it's definitely something to be aware of, especially if you keep your pages close to each other, but let your objects bleed out of the boundaries.

If you do manage to accidentally move or delete an object, the usual Edit > Undo (Ctrl-Z) option will generally save you. But the multi-page code is still new, and I have experienced a few crashes when using it, so I wouldn't rely on that safety net too heavily. As usual I recommend saving frequently and making sure you have autosave enabled (Edit > Preferences > Input/Output > Autosave).

With the Page tool selected you actually have other options besides the tool control bar for performing some of the page-related tasks. You can create a new page simply by drawing a

rectangle on the canvas. This lets you create new pages that aren't the same size as the currently selected one – but you also don't get accurate control over the dimensions. Having created the page, you can select it and then change the page size from the input field and drop-down in the tool control bar – but if you're going to do that then I'm not sure I see much benefit in drawing out the page on the canvas first anyway.

Deleting a page can also be done simply by pressing the Delete key on your keyboard, as you might imagine. Right-clicking on a page will bring up a context menu with a few common options, too:



There's no context menu when you click on the empty canvas. It would have been nice to at least have a 'New Page' option that creates a new page with the currently selected page's dimensions, but placed at the mouse position.

Since this is new code, not every part of Inkscape is fully aware of this multi-page world. I've already described how to change the page size using the page tool, but it's a little disappointing to find that the Document Properties dialog only knows about the first page. It doesn't matter which page you have selected, changing the size in that dialog will only affect the first one. I would actually prefer it if this dialog acted as a 'master' control, setting the size for all the pages. That would be more consistent with the other controls in this dialog, such as the color picker for changing the page background, which does apply to all the pages. As it is, there's no way to select multiple pages if you want to resize them all to the same dimensions, so you'll have to resize each one by hand by adjusting its dimensions in the tool control bar.

Conversely, the Align & Distribute dialog does recognise

different pages. If you select 'Page' in the 'Relative To' pop-up, your objects will align to the page they're currently in. If they straddle more than one page it's a little more hit-and-miss as to which one they'll align to. There is some tricky-to-explain logic to it, but it's such a corner case that it's not worth trying to put it into words. If you find yourself in this situation, and your objects align to the wrong page, you should just move them to be well and truly inside the correct page and try again.

Guides in Inkscape have always extended beyond the page boundaries and into the infinite space of the canvas itself. The multi-page world doesn't change that, so any guides you create will happily appear on top of all the pages in their path. This is a good thing, as it makes it easier for you to snap objects to a common baseline, for example. Another good thing is that pages themselves can be snapped to guides, or to other pages, which definitely helps with alignment. They don't snap to objects though, so you may want to use Object > Objects to Guides if you have to create alignment anchors based on your content (don't forget to duplicate the object first!).

On that note, it would have been really nice if the Objects to Guides option did something useful when the Page tool is selected. The obvious thing would be to create guides based on the selected page, while not removing the page itself. That would make it very easy to align pages to each other, but unfortunately the option just does nothing when a page is selected.

A similar missed opportunity is present in the spacing placed between new pages when you create them. Starting from a single page document, clicking the New Page button in the tool control bar creates a second page, then a third, and so on – each of them offset from the previous one with a small gap. Now let's consider the following example: I've created a second page, but haven't moved either of them from their initial positions. I've also drawn a rectangle that fills the first page, though I've rounded the corners so you can see the page behind it.



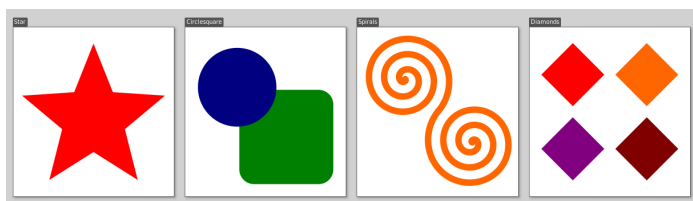
It's easy to imagine that this rectangle might equally be a border shape, a watermark, a line marking a header or footer, or some other object that you wish to copy to the exact same position on the second page. Your immediate thought might be to copy it to the clipboard, then use Edit > Paste in Place, after switching to the Page tool and selecting the second page. That doesn't work. It just pastes the copy on top of the original object, which is the same behaviour it's always had, but seems slightly wrong when dealing with multiple pages.

Another approach might be to duplicate the object, then try to position it using the arrow keys. This is where the gap size becomes a problem. A seasoned Inkscape user probably knows the trick of moving things around by holding the Shift key while pressing the arrow keys. This moves objects in discrete steps that are always the same, regardless of your zoom level. I often use this technique when I have to temporarily move an object out of the way, then back again – provided I count the number of keypresses I made, I can be certain it will return to the exact same position, no matter how much panning and zooming I've done in the meantime. This would be an ideal way to move an object to precisely the same position on another page... all it requires is that the gap is an exact multiple of the Shift-Arrow step size.

As you've probably guessed by now, it's not. It's just a little out, leaving your object misaligned one way or the other. Yes there are other ways to align objects on the page. But this small oversight complicates an otherwise simple task.

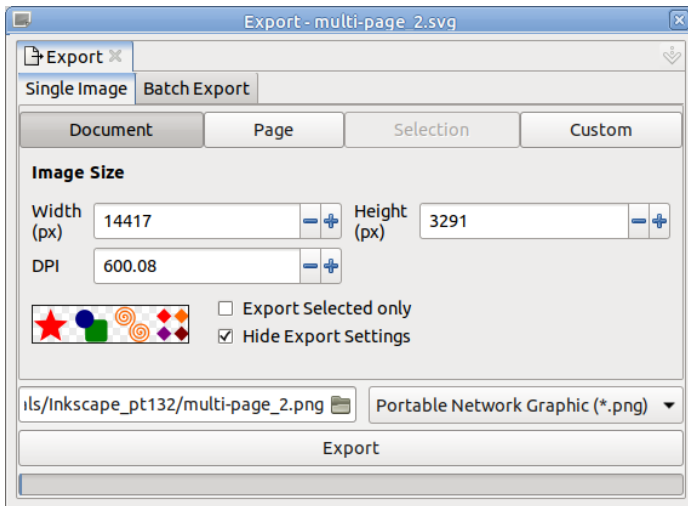
Having created your multi-page document, you might want to know what you can actually do with it. Loading it into a web browser only shows the first page – but more on that topic next month. You can save as a PDF file, which also preserves any page labels, and successfully handles different page sizes. For anyone trying to use Inkscape as a desktop publishing program, this will likely be more than sufficient. I'd still recommend learning to use Scribus if this is the sort of thing you do regularly – Inkscape works well enough for the occasional one-off, but it's no replacement for a fully-fledged DTP program.

Another use for multiple pages is to help organise a document that contains several images which you may later wish to export in another format for use as assets in a game or website, for example. I'm talking about the old 'Export PNG Image...' option in the File menu, which is now just 'Export...'. The name change is for a good reason: this release adds many more options to this dialog which solve some long-standing complaints about the application. We'll take a look at this using the following multi-page document:



When creating a single export image, the dialog has been somewhat de-cluttered, presenting only the main options. The more obscure parameters now appear in a second dialog when you start the export process, provided you UN-check the 'Hide Export Settings' checkbox. The main Export dialog also includes a preview image that will give you a good idea of what the final export will look like, and in the case of selecting the 'Document' button for a single export, this shows that pages

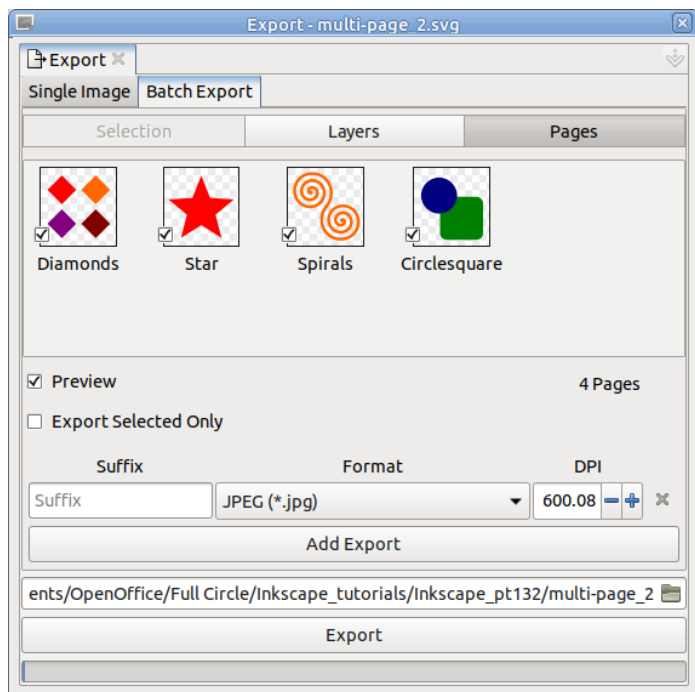
are ignored completely, and the exported file will be a single image for the entire document.



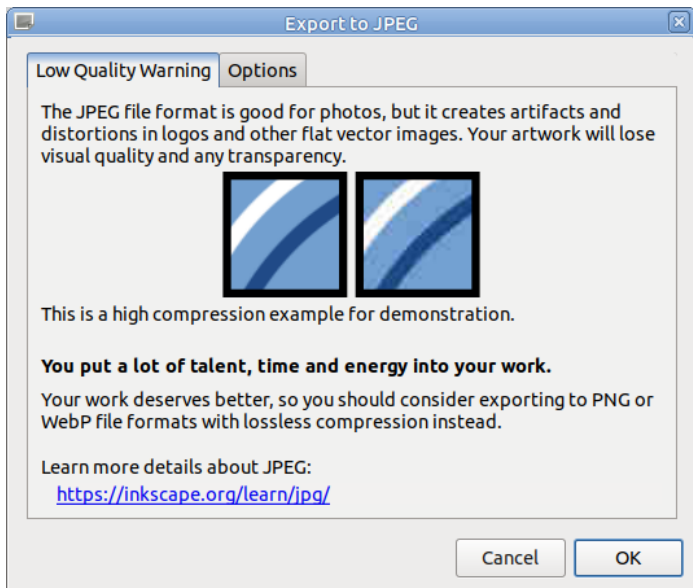
Clicking on the 'Page' button updates the UI a little, showing just a single page at a time in the preview. Just above that is a less-than-obvious set of UI elements: the page label, with back and forward buttons on either side. These buttons let you select which page to export, and the main canvas will zoom and pan to fill with the relevant page as you change them. This can actually be rather annoying if you were quite happy with your previous view of the document, so I'll take this opportunity to remind you of the View > Zoom > Zoom Previous menu option, which is assigned to the backtick (`) key by default.

Switching to the Batch Export tab, we find a minor UI inconsistency in that this tab contains sub-tabs rather than buttons for switching between the different export modes. One of those sub-tabs is labelled 'Pages' and allows you to export each individual page as a separate file. The order in which the pages are presented can be a little odd, as shown in this screenshot. It doesn't seem to reflect the order of the pages on the canvas, their creation order, alphabetical order, nor the order they appear in the SVG file. If you're going to be performing batch exports then it makes sense to give your pages clear and sensible labels to help work around this

confusion.



One thing to note about the new Export dialog is that there's now a pop-up 'Format' menu. No longer are you limited to just exporting PNG images. You can also export JPEGs directly, or even to export individual objects, pages or layers as their own separate SVG files, which will greatly simplify some workflows. Just be conscious of the different pros and cons of each format: JPEGs don't support transparency, for example, so Inkscape will automatically add a background based on the page color (set via the File > Document Properties... dialog). In fact the Inkscape developers seem rather keen for you not to use JPEG, as demonstrated by the options dialog that opens when you start the export.



One final feature of the Batch Export mode is the presence of the 'Add Export' button, just below the controls for selecting the file suffix, format and DPI. Click this to create additional rows, allowing you to export to multiple formats, or multiple DPI settings at once. For anyone who needs to generate assets in a variety of formats or sizes this could be a huge time saver.

The new multi-page functionality is a huge step forward for Inkscape – especially combined with the improvements in batch exporting. But the limitation of only seeing the first page in web browsers is a frustrating and, quite frankly, unnecessary one. Next month I'll be looking at how multiple pages have been implemented in the SVG file, and demonstrating how it is actually possible to view the additional pages within a web browser, if you know what you're doing.

Mark uses Inkscape to create comics for the web (<http://www.peppertop.com/>) as well as for print. You can follow him on Twitter for more comic and Inkscape content: @PeppertopComics

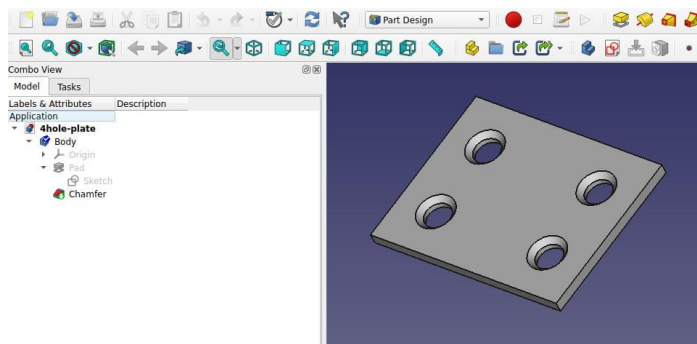
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HowTo: FreeCAD - Part 4

Written by Ronnie Tucker

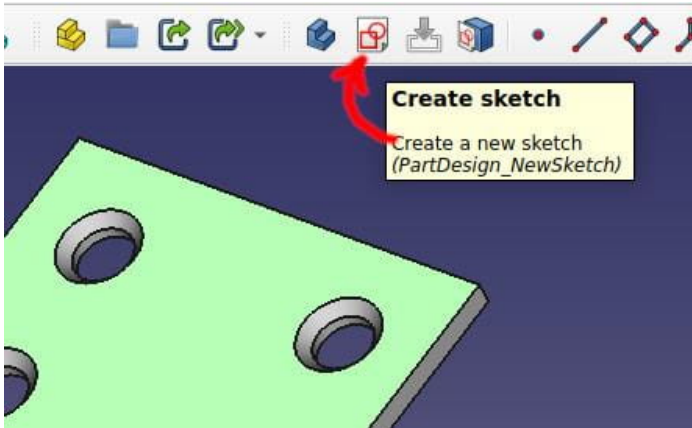
So let's add a piece to our plate. Let's say we need to have our finished plate screwed to a wall and a PVC pipe is to be inserted into a socket of some sort.

Here's where we're at thus far:

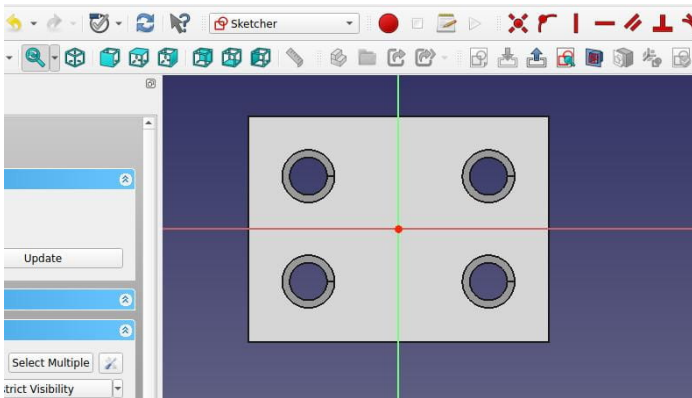


In the left panel it's listed as Body (the thing we're making) then the Pad which was done on the (indented text) of the Sketch. Finally we did the Chamfer (on the holes).

To add a pipe socket, we need to add the socket to the front face of the plate. Right? So left click to select the top face of the plate. It'll turn green. Next, click Sketch.

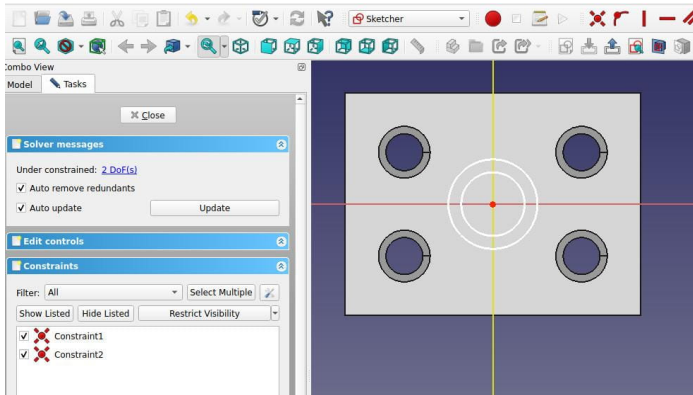


Well, this looks familiar.

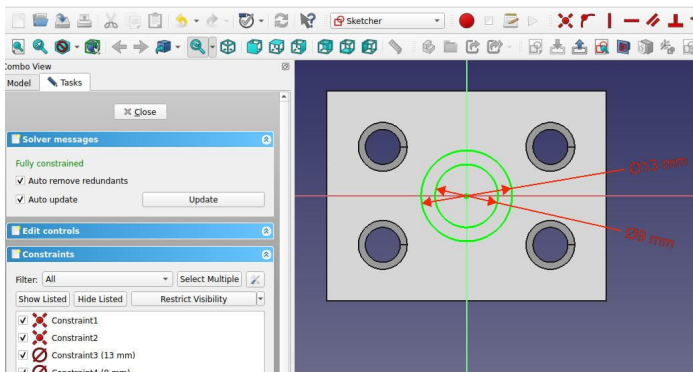


But instead of a blank sketch, we have our plate as the background. The red dot is the center point of the plate.

Use the circle tool to draw two circles going from the red center point out.

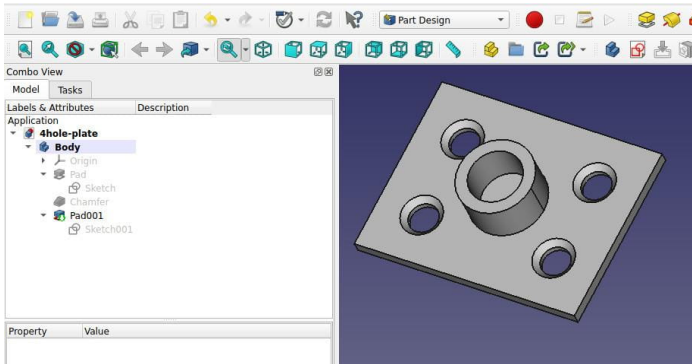


Like in previous examples, lock the circles down with diameters or radius. Whichever you prefer.



I went with an inner diameter of 9mm and an outer of 13mm.

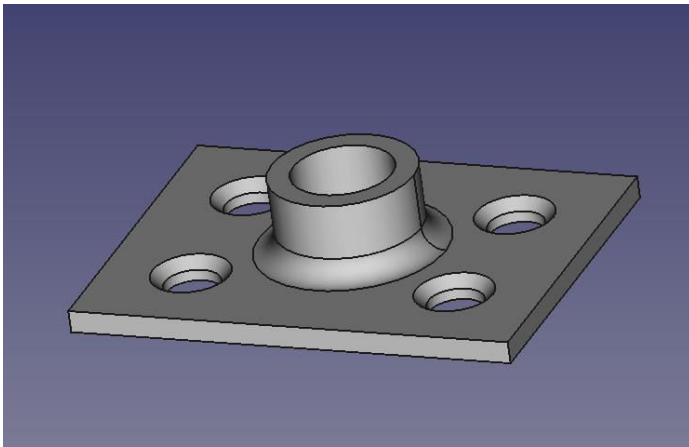
Like when we made the plate, click Close (in the left panel) to return to our Part Design workbench. And, like last time, click Pad. Voila! Adjust the height of the pad as you see fit.



Note, on the left we have (below Chamfer) a new Pad and new Sketch. They only apply to the pipe socket.

If you need to adjust the depth of the socket you can click on the Pad001 (in my case) and you'll see the attributes.

Feel free to click the edge where the socket meets the plate and choose to put a chamfer or fillet on it. Make it look spiffy.



Next time we'll abandon our plate and try something new...

Ronnie is the founder of Full Circle and, somehow, still editing this thing. He also paints, draws and does woodcarving in his spare time.



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The Daily Waddle

No **WONDER** it was a
THOUGHT experiment!

Meow...



E

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Everyday Ubuntu:

Written by Richard Adams

Back next month

Richard 'Flash' Adams lives in rural north Alabama and has been a computer support technician, a business analyst, a software salesman, a sales analyst, a QC team lead, and is now disabled/retired. He enjoys reading, NFL football, computer and video games, cooking, and playing with Baby, his cockatiel. Feedback and suggestions are welcome at acer11kubuntu@gmail.com.

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Linux on Your iPad

For as low as \$4.95, you can have your own personal Linux cloud computer in minutes on any device.



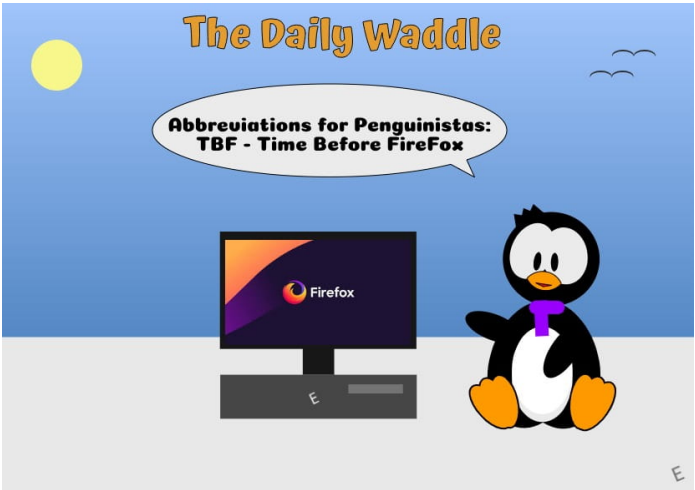
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UBports Devices



Written by UBports Team

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My Opinion: Is Apple hardware still relevant for Linux Users?

Written by Alan Ward

It is widely accepted that, though Apple's hardware has suffered from several noteworthy glitches over the years — including keyboard woes on laptops— in general it does seem to offer quite a high standard of quality. It is not uncommon for 10-year old computers to still work fine. They are typically relegated to less demanding tasks such as text processing; we will be using our most recent machine for video editing. But, much like an old and beaten-up truck, they can often still do a fair day's work. Obviously, having a long lifespan is all for the best for the original owner's finances as second-hand Macs still command a certain market value while in good condition, but can also be a win for sustainability since natural resources are consumed more slowly and electronic waste is generated more slowly.

I am the happy operator of 2006 to 2011-era Macbooks that I have acquired over the years. Quite honestly, the original cost has been largely paid off so whatever extra use I can get out of them is pure profit. The one I do worry a bit about, however, is the more recent Macbook Air I got just last year.

Maintaining a computer in a reasonable shape of tune can be seen as a balancing act between hardware and software. The main driving force behind augmenting hardware speed is not the boards and chips themselves, but rather the applications that need to run on them. Application requirements both for pure processing capability (CPU speed) and quick access to data has been steadily on the rise. Some prime “culprits” in this sense are the web browsers through which many of us perform tasks that need to get done for our jobs or other activities. But,

in the modern world, running an out-of-date browser is simply not an option.

How does this relate to Apple's line-up? Apple's OS-X or Mac OS is not a bad operating system by any metric. It is largely based on stable BSD components and has been fine-tweaked for the hardware it runs on — this being one of the advantages of making both your own computer and its software. The price is right — as in free for Apple hardware — and upgrades are regularly available. However, it would not be reasonable to expect a business to support a specific hardware design for all eternity. We may not like this, but it is a fact. Internal resources are required to maintain a piece of software, and to ensure compatibility with the hardware platforms. So, whenever we buy a computer, it is a question of time that this specific design will no longer be supported by software manufacturers.

Apple's stance on this has actually been reasonable. Hardware support has, in practice, been for a minimum of five years, and often closer to the seven-year mark. For many users, this is about the time they would be considering a new computer, in any case. But, this is quite a hard limit, and it is not Apple's fault but rather that of other software developers. Most applications are designed for a specific version of the operating system, or two or three at most. This is also one reason why many applications need to be upgraded each time the operating system itself gets a bump. So, when the computer gets shut out of the operating system's renewal cycle, many applications will also cease to be upgradable. These include, specifically, many web browsers. They also include open-source applications that we are used to as Linux users, but that can also be advantageous to run on Apple's products from a price standpoint — and can also be of use to ensure file compatibility in mixed environments where some users run Linux and others Mac OS.

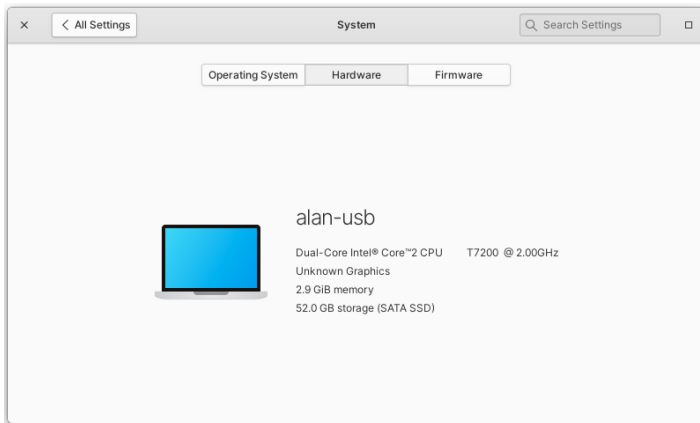
This is where a Linux distribution can come in handy. Once our Mac no longer receives operating system updates, installing Ubuntu (or my favourite, Kubuntu) can be a viable option.

Recent versions have great support for the Mac's EFI boot, WiFi cards and keyboard layouts, so switching operating systems should be well within an average user's comfort zone. (With some caveats: if you do go down this route, please remember to have a backup copy or two of all your data... just in case. Also, do not install a new operating system on your daily driver!)

Seen from this perspective, we would seem to have solved the problem of lengthening an Apple product's lifespan. Thus, we may even be closer to justifying its (admittedly) rather high price-point, specially on more recent products.

Unfortunately, things are not quite as rosy. Hardware specifications some ten years back were not quite at the same level as for modern computers. A Macbook Pro from 2011 had only 4 GBytes of RAM, and a rotational 500 GByte hard drive. The RAM specs are low for today's standard, both as regards quantity (16 GBytes would be reasonable today) and as regards speed. We should not lose track of the fact that RAM speeds have evolved, and are a critical part of a computer's throughput since all data needs to be written to and read from RAM at some point. RAM can be replaced, however, and this same computer can be upgraded to 8 GBytes of RAM and a faster SSD hard drive. The operation can be carried out by any tech-savvy user, since the laptop's bottom panel is simply held in with ten Philips 00-head screws.

For an older 2006 white Macbook, the original 1 GByte of RAM does not quite cut it. But I was able to upgrade the RAM to 3 GBytes and put in another SSD hard drive, making it a usable machine with Enlightenment OS version 6 (Odin). I have even managed to run both Google Drive in a Web browser and Gimp at the same time in the writing of this article, which goes to show that for simple tasks, 3 GBytes of RAM can be sufficient. The processor fan can get loud, though, when the spell checker kicks in.



Elementary OS 6 running on a 2006 Macbook

To our point, older Apple products may still have some life left in them — but only if some of the hardware can be upgraded to a level approaching modern standard. Nothing can be done for the CPU in most cases, both this should not deter us from expanding RAM sizes or switching the hard drive to a newer model.

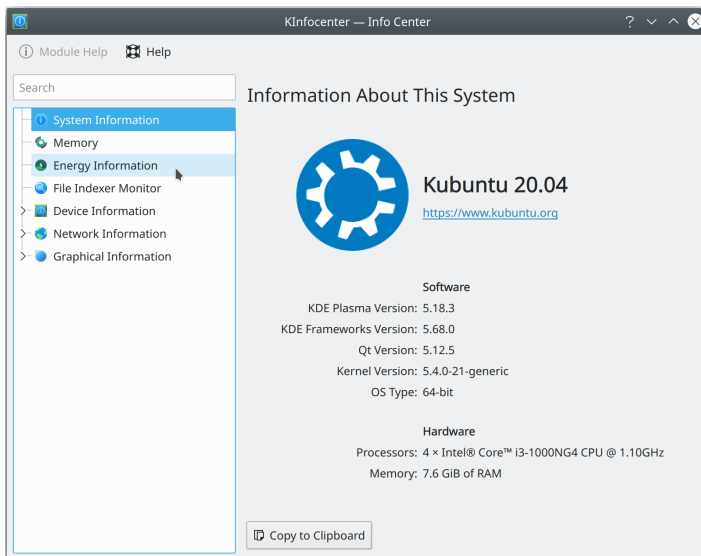
Sites handling NOS (New-Old Stock) computer parts may be able to help out to find us memory chips suitable for these older computers. Do be aware, though, that some parts are getting harder to find as time goes on, and prices can be high as a consequence.

As for more recent Apple products, things may get more complicated. Access is considerably reduced through the use of glue and snap-together components. iFixit's teardown videos can be of help to assess the actual difficulty in taking one of these computers apart. They even give a “repairability score” that is also relevant to upgrading. Physical access to a hard drive or to a RAM slot is quite often no longer within the skill level of an average user, but rather that of a technician with some experience in handling a heat-gun. This may conceivably deter most users from even trying to.

It should also be mentioned that, in many of these products (iMac models come to mind), there has been an increasing

tendency to solder components such as RAM or (more recently) hard drives directly to the motherboard, which does make upgrading something of a mission.

Additionally, there are still some hardware compatibility issues to be addressed with drivers for recent Macs, specifically for the USB subsystem. So, access to the onboard keyboard, trackpad and WiFi hardware does not work out-of-the-box, though an external keyboard and mouse do allow installation to take place. I would expect this problem to be solved going forward as the Linux kernel evolves to support this newer generation of hardware.



Kubuntu LTS running on a recent Macbook Air with an Intel processor, though several problems were detected with hardware drivers

So, will extending a Mac's lifespan by switching to Linux be a viable option in the mid-term, say when current Apple models get on to the 5-to-7 year range?

In all fairness, Linux will probably still run on these models. Perhaps sticking to an LTS version of Ubuntu with a longer support period would be wise. Also, trying to find models with

larger quantities of RAM may be a good bet to avoid running short: anything with 8 to 16 GBytes should be fine for the next five years, perhaps slightly more. As for hard drives, probably the best route would be to replace the onboard hard drive not with another—which, as stated, may not even be an option for drives that are soldered-on— but with an external disk. Ports are available ranging from Thunderbolt to USB 3 (or even the newer USB-C connector), which allow us to boot the computer from an external drive at speeds that would have been the province of internal drives only some years ago. Although having an external enclosure hanging off our computer may not be specially nice or even convenient if on the move, such a system can work quite well for computers that are used on a desktop in a fixed place. This setup could even allow us to retain the original operating system on the internal drive as a failsafe, at least until we are confident our Linux installation on the external drive is working for us as it should.

Given the amount of Apple laptops that have been acquired during the last pandemic, something will need to be made of them at some point. So we may start looking for solutions now that some of these materials will start making their way onto the second-hand market as first adopters switch their Intel-based Macs for the new Apple Silicon ones.

***Alan** holds a PhD in Information and the Knowledge Society. He teaches engineering at Escola Andorrana de Batxillerat (high-school). He has previously given GNU/Linux courses at the University of Andorra and taught GNU/Linux systems administration at the Open University of Catalonia (UOC).*

My Opinion: Script Programming with Artificial Intelligence

Written by Alan German

ChatGPT (<https://chat.openai.com/chat>) is an artificial intelligence (AI) tool that, amongst other things, can create text based on a request from an end user. So, I thought I would use it to write an article for this magazine by entering “Write an article for Full Circle Magazine on Script Programming with Artificial Intelligence”. Had I gone ahead with this, you could now be reading the result.

However, while ChatGPT is perfectly capable of producing reasonably intelligent text from such a command, this article hasn’t actually been generated by AI. But, as we will see, some of the article’s content has indeed been produced using ChatGPT. In particular, we will explore how this tool can be of assistance in script programming for LibreOffice Basic.

But, first let me explain the scenario. I have a LibreOffice document (ODT file) that contains the lists of topics that my computer club has covered over the past three years in our weekly, on-line, question-and-answer sessions. Each week I build an agenda for the upcoming session as a simple text file (TXT) that lists the titles of the topics to be discussed next. This text file is used for a variety of purposes, one of which has been to manually add the list of new topics to the main ODT index file. I want to automate this latter process by developing a macro that will read the topics from the text file and add them to the end of the ODT file.

I don’t know all that much about object-oriented programming so, when I want to create a macro for a document in LibreOffice Writer, my practice is to use Google to search for

code extracts that I can then modify and string together to produce the final product. And, this is precisely what I did to build the required macro in this case.

But, then I saw a YouTube video of an individual using ChatGPT to create computer code in a number of programming languages by simply telling the AI bot what was required. Now, perhaps LibreOffice Basic is a bit of a backwater item in terms of mainstream programming, but I figured that it would be worth a shot to see if I could use ChatGPT to develop the code for my macro.

Now, I know how to read and write lines of text from an ASCII file. My problem is that the ODT file isn't a simple text file. The ODT format is a special type of ZIP file that contains a number of XML and other components. So, the trick is to have the macro open the ODT file, identify the component that contains the body text of the document, add the desired lines at the end, and close the file.

At present, use of ChatGPT is free. All that is required is to create an account on the system, or login using an established Google account. Once logged in, one enters a request as a string into a text box. My request was "Write a program in LibreOffice Basic to add a string to the end of an odt file".

The result was amazing – as shown by the following (partial) screenshot:



Write a program in LibreOffice Basic to add a string to the end of an odt file



Certainly! Here is an example of how you can do this in LibreOffice Basic:



1. Open the odt file that you want to modify using the `Load` method of the `Desktop` object.

Copy code

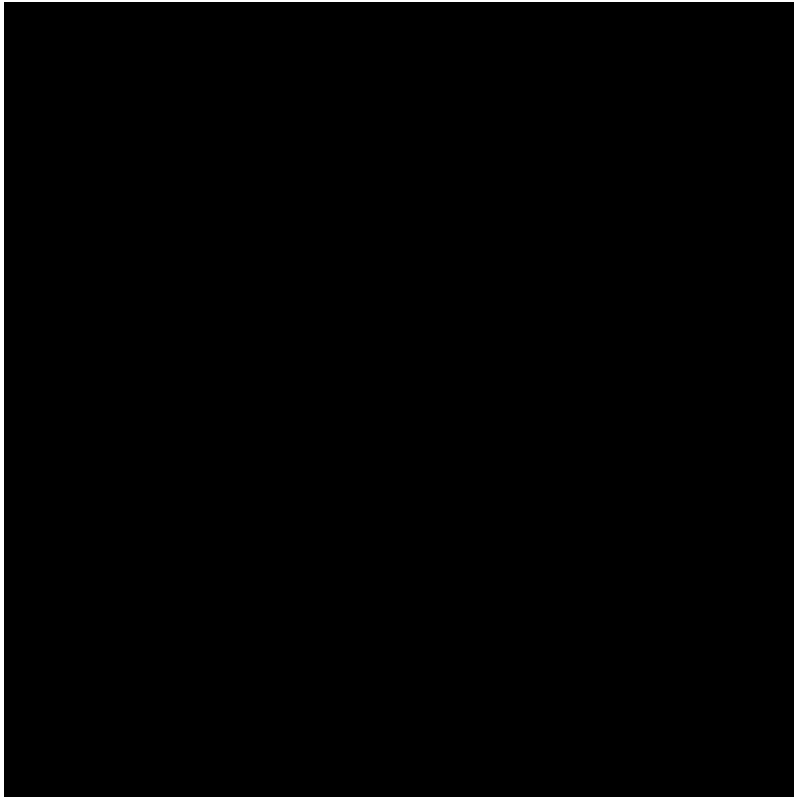
```
Dim oDoc As Object  
oDoc = ThisComponent.Load("/path/to/file.odt")
```

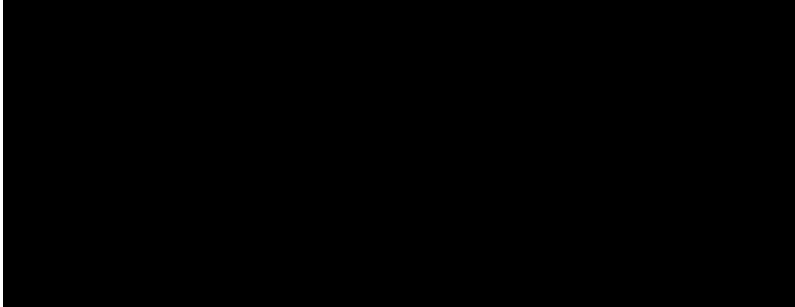
2. Retrieve the document's text object using the `getText` method of the `oDoc` object.

Copy code

```
Dim oText As Object  
oText = oDoc.getText
```

ChatGPT effectively produces a custom tutorial on building the macro. Each required step in the process is explained and the relevant code extract displayed. Finally, all the code that has been developed for the requested macro is shown as a complete block:





In essence, this code segment is very close to the macro code that I had produced over some considerable time, having had to research several web postings to identify the required techniques. Clearly, it is very generic code, and only covers part of what is required for the final macro. But, it is evident from this simple test that the AI bot is fully capable of generating “modules” of code that can readily be adapted for the desired purpose, and that such modules could be quickly consolidated into a fully-functional macro.

The other consideration is that the current version of ChatGPT is at an early stage in the development of AI tools. As such applications become more sophisticated, and the computer systems running them become more powerful, it is highly likely that their use in computer programming will become ubiquitous. In the interim, ChatGPT is a useful tool for anyone seriously developing programs, macros and scripts, and a really interesting option for those who just wish to see what AI can do.

Alan is a computer enthusiast based in the Great White North where he maintains LinuxNorth blog at: <https://linuxnorth.wordpress.com>

How-To: Write For Full Circle Magazine

Written by Ronnie Tucker

Guidelines

The single rule for an article is that it must somehow be linked to Ubuntu or one of its many derivatives—Kubuntu, Xubuntu, Lubuntu, etc.

The Official Full Circle Style Guide can be read at: <http://bit.ly/fcmwriting>

Please read this document before submitting an article. Follow the guidelines and you will have a much better chance of seeing your article in Full Circle.

Writing

There is no word limit for articles, but be advised that long articles may be split across several issues. In your article, please indicate where you would like a particular image to be. Please do not use any formatting in your document.

Images

Images should be no wider than 800 pixels, in JPG format, and use low compression. When you are ready to submit your article, please email it to: articles@fullcirclemagazine.org

Non-English Writers

If your native language is not English, don't worry. Write your article, and one of the proofreaders will read it for you and correct any grammatical or spelling errors. Not only are you helping the magazine and the community, but we'll help you

with your English!

For Reviews

Games/Applications:

When reviewing games/applications, please state clearly:

- *title of the game*
- *who makes the game*
- *is it free, or a paid download?*
- *where to get it from (give download/homepage URL)*
- *is it Linux native, or did you use Wine?*
- *your marks out of five*
- *a summary – with positive and negative points*

Hardware:

When reviewing hardware, please state clearly:

- *make and model of the hardware*
- *what category would you put this hardware into?*
- *any glitches that you had while using the hardware?*
- *easy to get the hardware working in Linux?*
- *did you have to use Windows drivers?*
- *marks out of five*
- *a summary – with positive and negative points*

***You don't need to be an expert to write an article
– write about the games, applications and
hardware that you use every day.***

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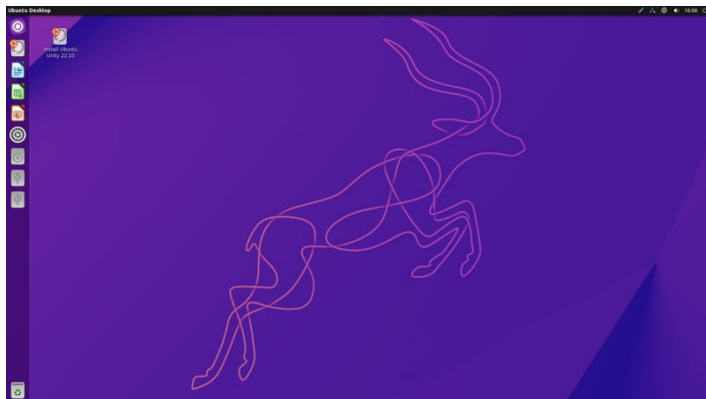
Review: Ubuntu Unity 22.10

Written by Adam Hunt

Let's take a jump into Ubuntu Unity 22.10 and see what this sixth release brings. Ubuntu Unity is now an official flavor of Ubuntu and that new status alone brings some new things.

Ubuntu Unity 22.10, out on 20 October, 2022, is the first interim release of the new development cycle, which will take us through two more interim releases to the next long term support version, Ubuntu Unity 24.04 LTS, due in April 2024.

As an interim release, Ubuntu Unity 22.10 has nine months of support, until July 2023.



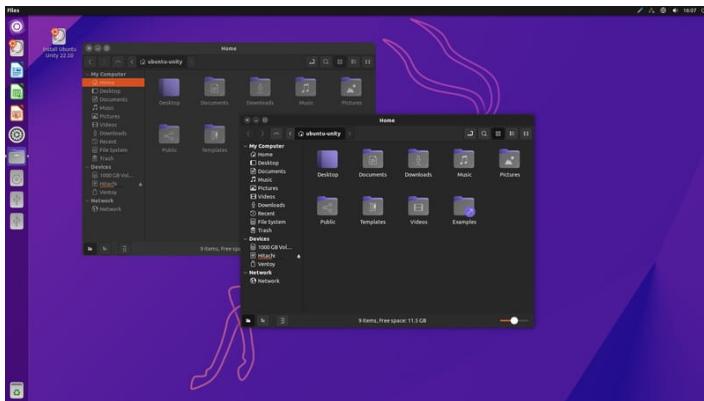
Ubuntu Unity 22.10 default desktop

Installation

One of the advantages of being an official flavor of Ubuntu is that the distribution now gets hosting of its ISO files for download on the official cdimage.ubuntu.com website and that is where I picked it up via BitTorrent.

In the past, Ubuntu Unity downloads were only provided with MD5 sums for file integrity verification which are no longer all that secure. As an official flavor, it now has an SHA256 sum provided which is a security improvement. I ran the SHA256 sum check from the command line and the file was verified as being correct.

To test it, I dropped the ISO onto a USB stick equipped with Ventoy 1.10.81 and booted it from there. Ventoy does all the hard work of unpacking and booting to the desktop. Its ability to hold multiple distributions on one USB stick makes doing reviews easy but also makes it useful for any user who wants to try out several different distributions.



Ubuntu Unity 22.10 default Yaru-dark theme

System requirements

Ubuntu Unity does not specify any system requirements but it is probably reasonable to assume that it is the same as Ubuntu 22.10, a minimum of:

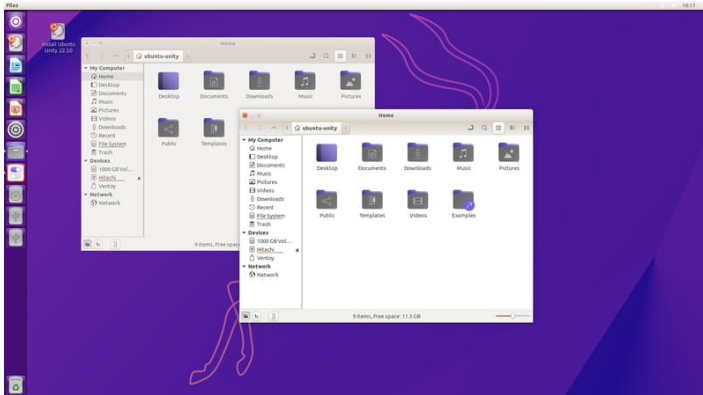
- 2 GHz dual core processor
- 4 GB of RAM

New

Becoming an official flavor means more than just download hosting, it means that the specific Ubuntu Unity packages are

hosted in the Ubuntu repositories as “universe” packages, instead of as Personal Package Archives as they formerly were.

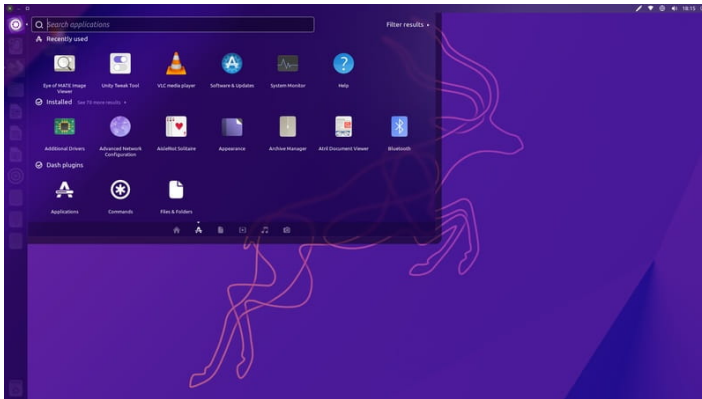
Being “universe” packages also means that Ubuntu Unity can now be installed on top of any other flavor of Ubuntu by means of the ubuntu-unity-desktop meta-package.



Ubuntu Unity 22.10 Radiance theme

The release announcement says that this version "introduces a new toggle from the panel to switch between the dark and light theme, and between accent colors." That statement is true, but doesn't tell the whole story. This version of Ubuntu Unity does have a paintbrush icon on the panel and it does allow quick theme and accent color switches, in a limited fashion. Ubuntu Unity 22.10 actually comes with four window themes: Ambiance, Radiance, Yaru and Yaru-dark. The panel icon only allows switching between Yaru and Yaru-dark. It also offers only ten accent color choices. The settings menu has only two theme choices, but 20 color accents. The Unity Tweak Tool offers all four themes but no accent choices. So everything is there, just a bit confused and scattered about. To make matters even more confusing, the panel icon only displays when you have the Yaru or Yaru-dark theme in use. If you are using the classic Ubuntu Ambiance or Radiance theme then the panel icon is not there. Overall, this feels kind of “beta” level and not quite ready for prime time. Hopefully, it will be fully debugged in time for the next LTS release.

Of course the greater question is “what is the user case for this feature?” Is there really a need to be able to rapidly change themes and accent colors with such a speed from a panel icon, that it is too slow to go to the settings menu or the tweak tool? In other words, is this actually needed?



Ubuntu Unity 22.10 with main menu

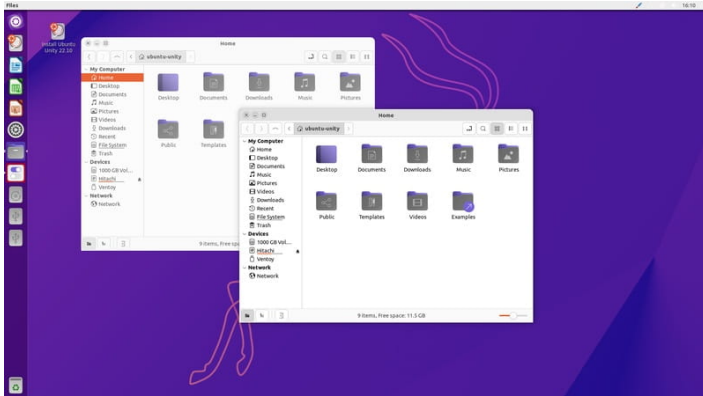
The release announcement also says, "the ISO's much smaller, at 2.8 GBs" but the ISO file I downloaded was actually 3.1 GB, so 11% bigger than claimed.

Lastly, the release announcement states, "the RAM usage has also gone down significantly (around 650MBs when idle)." After a fresh boot, I actually saw 1.4 GB at idle with nothing open.

The transition away from libadwaita applications is now complete and that means Ubuntu Unity 22.10 is now mostly using applications from the MATE desktop.

As with all Ubuntu Unity releases, there is a new wallpaper. This one has a kudu on it, as the release is codenamed "Kinetic Kudu", after the species of African antelope. The default wallpaper artwork is actually nicely done. It looks quite elegant and is far better than some of the other Ubuntu flavors' takes on a kudu-themed wallpaper. A total of 31 wallpapers are provided, eight more than the last release, with many of them from Ubuntu or from recent releases of Ubuntu Unity itself.

The project had announced in 2021 that it was planning on moving its snap package repository to a newly developed snap store at <https://lolsnap.org/> and was planned as an alternative to the Canonical snap store. In the past, I had questioned how that was going to work, including who would test and check the hosted packages and ensure security, etc? The website is now coming up "dead", so I presume that the project has been abandoned.



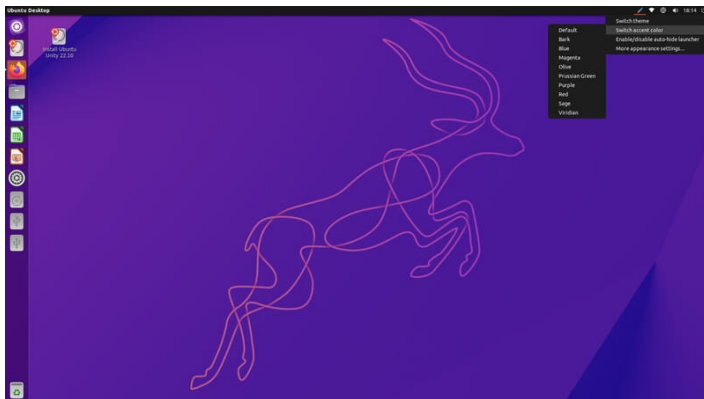
Ubuntu Unity 22.10 Yaru-light theme

Settings

Other than the need to use both the settings menu and the Unity Tweak Tool (plus the panel icon if you have a theme in use that lets it appear), the new settings mentioned are all there and they do work, once you locate them.

In addition to the 20 color accents and four window themes, there are also 36 icon sets and six cursor styles to choose from.

As has been the case for the last few releases, Ubuntu Unity works hard to provide lots of user choices and thus differentiates itself from the mainline Ubuntu which has very limited user options.



Ubuntu Unity 22.10 with theme menu

Applications

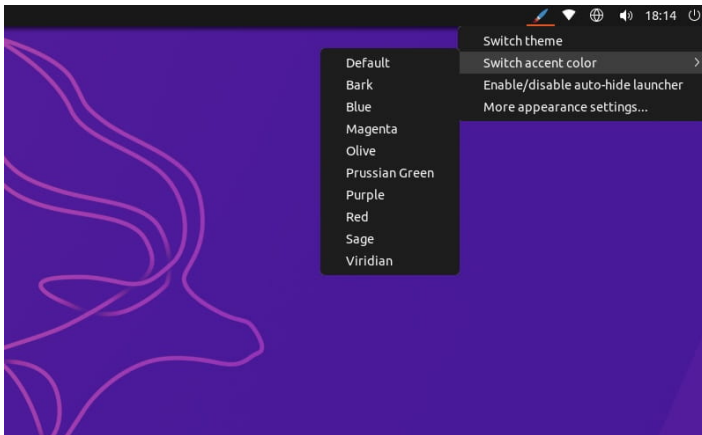
Some of the applications included with Ubuntu Unity 22.10 are:

- *Archive Manager (File Roller) 43.0 file archiver*
- *Atril 1.26.0 PDF viewer**
- *Cheese 43-alpha-1 webcam application*
- *CUPS 2.4.2 printing system*
- *Document Scanner (Simple Scan) 42.5 optical scanner*
- *Firefox 106.0 web browser***
- *GDebi 0.9.5.7 .deb package installer*
- *Gnome Disks 43.0 disk manager*
- *Gnome Screenshot 41.0 screenshot tool*
- *Gnome System Monitor 42.0 system resource monitor*
- *Gnome Terminal 3.46.2 terminal emulator*
- *Gparted 1.3.1 partition editor**
- *Image Viewer (Eye of MATE) 1.26.0 image viewer**
- *LibreOffice 7.4.2 office suite*
- *Nemo 5.4.3 file manager*
- *Pluma 1.2.6 text editor**
- *PulseAudio 16.1 audio controller*
- *Remmina 1.4.27 remote desktop client*
- *Rhythmbox 3.4.6 music player*

- *Shotwell 0.30.16 photo manager*
- *Startup Disk Creator 0.3.15 USB ISO writer*
- *Synaptic 0.91.2 package management system*
- *Thunderbird 102.3.3 email client*
- *Transmission 3.00-2.2 bit torrent client*
- *Unity 7.6.0 interface*
- *Unity Tweak Tool 0.0.7 settings manager**
- *VLC 3.0.17.4 media player*

* indicates same application version as used in Ubuntu Unity 22.04 LTS

** supplied as a snap, so version depends on the upstream package manager



Ubuntu Unity 22.10 with theme menu close-up

Removed this release are:

- *Ubuntu Software (Gnome Software) package management system*
- *MATE System Monitor system monitor*

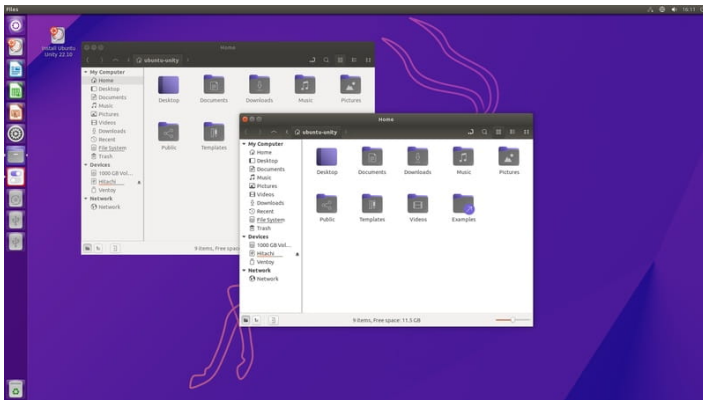
Added this release are:

- *Cheese webcam application*
- *GDebi .deb package installer*

- *Gnome Screenshot screenshot tool*
- *Gnome System Monitor system resource monitor*
- *Synaptic package management system*

None of these application changes were mentioned in the release announcement, so it is a bit unclear what is going on here, especially as all the applications added had been previously removed in recent releases and are now back.

Of the applications removed, the MATE System Monitor has been replaced by the Gnome System Monitor which had been previously swapped for each other in the last release.



Ubuntu Unity 22.10 Ambiance theme

The Ubuntu Software (Gnome Software) store has been removed and not replaced by a similar, user-friendly type of software store but by Synaptic, which is a bit more technical to use, although not entirely "user-hostile". Synaptic had been previously supplied, but was removed in the last release.

I have to admit that all this undocumented switching out of applications in recent releases is a bit bewildering from a user point of view. Applications disappear only to reappear in the next release with no explanation why. It doesn't really feel like there is a plan here. The one saving grace is that when an application is removed from the default installation it remains in the repositories and can be quickly restored by the user using Synaptic or from the command line using APT.

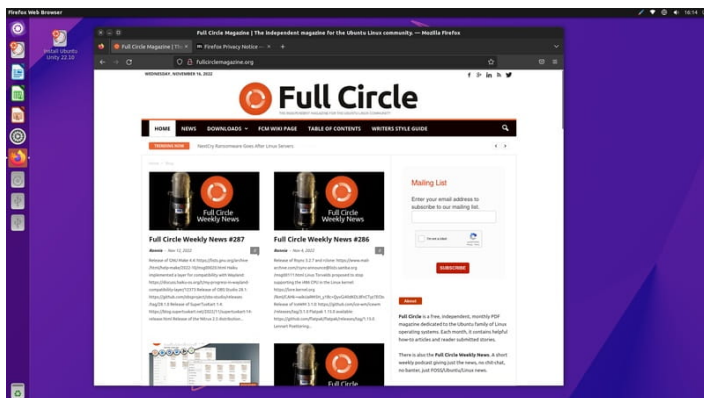
One thing that is very welcome in this release is that the Gnome Screenshot tool that was deleted from the last release is back. That makes the reviewer's job much easier! All Linux distributions really should include a default screenshot tool.

This release continues with Nemo as the default file manager which is from the Cinnamon desktop. Nemo works well and is easy and intuitive to use, but still lacks bulk file renaming which really is a needed feature. This can be compensated for by installing a separate bulk file renamer, such as GPRename.

Ubuntu Unity moved to the snap version of the Firefox web browser in Ubuntu Unity 21.10 and it remains the default browser in 22.10.

This release brings a new version of the Unity interface, 7.6.0, replacing the previous 7.5.1 version. Visually not much has changed except for a transparent border but 7.6.0 does work well and at least shows that Unity development is not stuck in 2017.

LibreOffice 7.4.2 is once again supplied complete, lacking only the LibreOffice Base database application which can also be installed from the Ubuntu repositories if needed.



Ubuntu Unity 22.10 with Firefox

Conclusions

Ubuntu Unity continues to focus on giving users a wide range of customization options in look and feel that set it apart from Ubuntu.

Setting aside the questions about the rapid switching of the default applications and just looking at this release as a stand-alone, it is actually very functional, looks good and works well, with just a couple of settings quirks. Given the developmental nature of these interim releases, I think that there is a good chance that the settings will be a lot more polished by the time the next LTS comes out in April 2024.

External links

Official website: <https://ubuntuunity.org/>

***Adam Hunt** started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada in a house with no Windows.*

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Review: SpiralLinux

Written by Adam Hunt

Debian is a truly legendary Linux distribution. Not only is it the progenitor of half the Linux universe, including Ubuntu, it is widely used in servers and other applications. It is also a desktop distribution but is not as commonly used in that role. Using the Debian net-install method the software readily installs, but once installed there are many things that need fixing like firmware, printers, wifi, fonts and so on. It is not that user-friendly, making it difficult for the average desktop user to get working right.

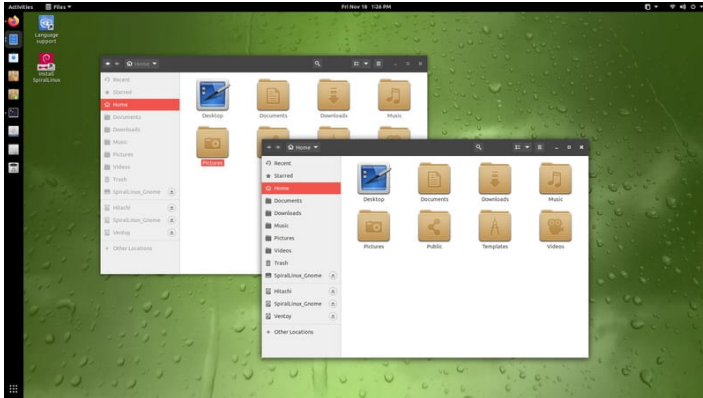


SpiralLinux 11.220925 default desktop

It was these sorts of issues, that it doesn't "just work", plus uneven release schedules and the ponderous project decision-making processes that originally led to Ubuntu being created in 2004. There have also been many other similar projects to create more user-friendly Debian derivatives for desktop users. It was just that line of thinking that led to the launch of a new Debian-based distribution in June 2022, called SpiralLinux.

Spiral's lead developer wrote that the main trouble with small Debian-based off-shoot projects, led by only one person or a small team, is that there was too much customization and that

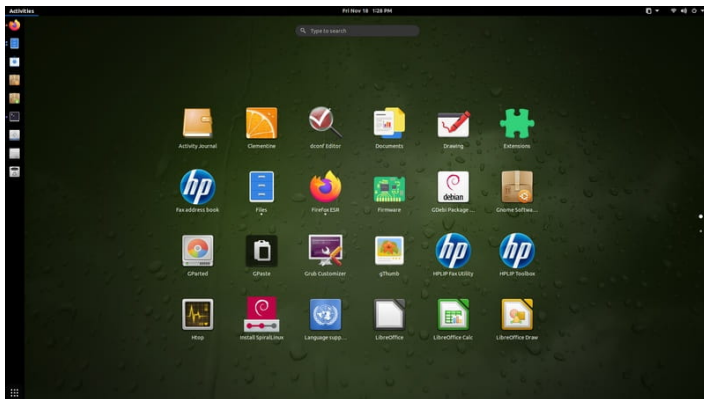
put the project at risk. If anything happened to the main developer, such as being “hit by a bus”, as he put it, then it was all over, with users left unsupported. Having already created GeckoLinux as a repack of OpenSUSE, the anonymous developer thought that a Debian-based distribution that only used Debian’s existing packages, repositories and update system, while repackaging it so it was much more ready-to-go and functional out of the box, would give it a combination of user appeal and resilience.



SpiralLinux 11.220925 default Numix theme

The resulting distribution is pure Debian, with no outside packages, personal package archives or other add-ons, but organized to be much more user-friendly for installation and use, one that will “just work” for desktop users, especially new-to-Linux, neophyte desktop users. Thus SpiralLinux was born, with its first release on 6 June, 2022 as version 11.220606. Since then, there have been three more releases. The one I looked at was the most recent, 11.220925.

It is worth noting that Spiral uses a point release model and not a rolling release, which means if he does actually get hit by a bus there will be no more releases. However, the last release will continue to be available and existing installations will keep working, too. They should also update to future versions of Debian in perpetuity. It won’t matter that the developer is gone, as the Debian project provides all the support automatically and by design, not the developer.



SpiralLinux 11.220925 applications menu 1

Versions

The SpiralLinux release numbering system is a bit esoteric. Version 11.220925 is based on Debian 11 “Bullseye”, the current stable Debian version. The rest of the numbering is just the date: 25 September, 2022, even though the release was made on the 27th, but close enough.

Unlike in Debian where you pick your desktop during a generic installation process, with Spiral you download the version you want right from the start. SpiralLinux comes prepackaged in eight different editions by desktop: Cinnamon, Xfce, Gnome, KDE Plasma, Mate, Budgie, LXQt and a "builder" version. All versions are only for X86 64-bit architecture. That makes it simple for new users and logical too. Each version download is around 2 GB in size, depending on the desktop.



SpiralLinux 11.220925 applications menu 2

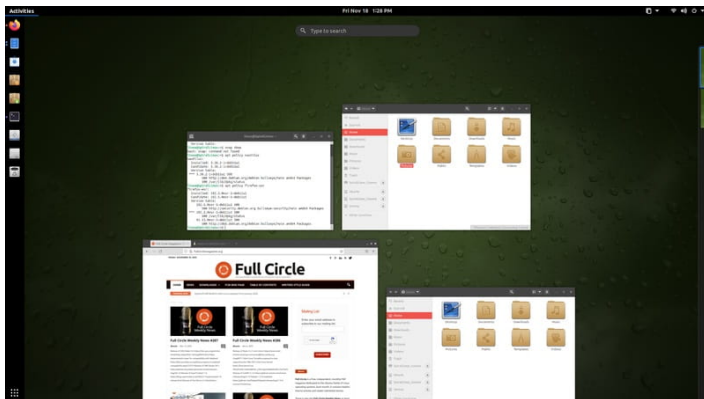
Installation

I downloaded the Gnome desktop version of Spiral using HTTP, since there is no BitTorrent option. The download links are right in the official website homepage on github.io, but the ISO downloads are hosted on sourceforge.net instead. The links work directly, though.

The Gnome version is a 2.2 GB download which is quite a bit smaller than Ubuntu at 3.8 GB for version 22.10.

Spiral has no SHA256 sum provided but there are SHA1 and MD5 sums. SHA256 would be better as both the others are considered “cryptographically broken” these days. The homepage explains how to find the check sums as they are hidden away on sourceforge.net. I ran a SHA1 sum test from the command line to make sure the download was correct and it tested fine.

I dropped the ISO file onto a USB stick equipped with Ventoy 1.0.81 and booted it up from there for testing. SpiralLinux is not officially listed as being supported by Ventoy, but it worked just fine.



SpiralLinux 11.220925 main menu

System requirements

SpiralLinux does not list any minimum system specifications, but Debian currently recommends at least a 1 GHz Pentium 4 processor and 2 GB of RAM. In my testing, SpiralLinux was using 4.3 GB of RAM with just a few applications open: Firefox with eight tabs, Nautilus, Gnome Terminal and gedit. I would think that at least a dual core processor and 8 GB of RAM would be a good idea for reasonable performance.

Features

Even though SpiralLinux is 100% Debian, it is not the “stock” Debian experience. When you first boot it up you get a modified Gnome desktop but changed using Debian’s own background configuration, as opposed to outside software.

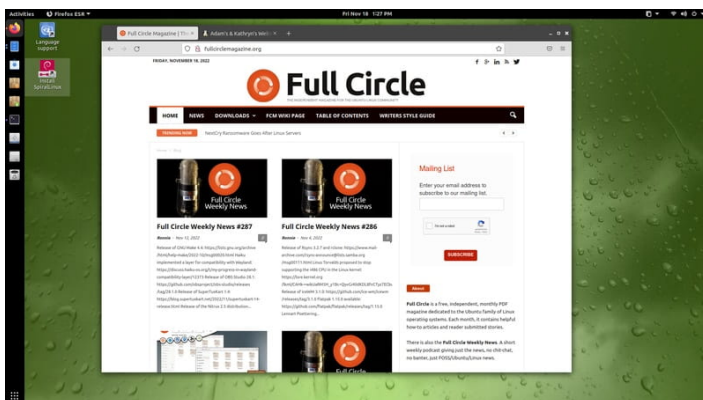
After the green raindrop wallpaper, the first thing you notice is that this Gnome desktop has a pinned dock on the left side, Ubuntu style. These days on default Gnome, the dock is on the main menu only and not the desktop as a favorites list for quick access. Unlike the Ubuntu dock rendering though, the default Spiral dock is very plain without any transparency. It does allow application icons to be added, removed and re-arranged though. The settings for it are hidden away in the included Gnome Tweaks settings manager under “extensions” in the

Dash to Dock extension, which comes pre-installed. This allows changing icon size, intelligent hiding when an application window touches the dock, putting the dock on any screen edge and selectable transparency by percentage. It also allows turning off the dock and going to the default Gnome experience, where it only appears in the main menu instead.

Once you open an application or two, the next thing you notice is that the “minimize” and “maximize” window buttons are there, just like in Ubuntu! In the default Gnome set-up, you only get a “close” button. Once again, this is a setting buried deep in Gnome, but it really makes the desktop much more functional.

The Gnome menus work normally. Hitting the “Activities” button or the “super” (windows) key brings up the main menu with its desktop switcher, open windows selector and search for applications and documents. Clicking the grid icon on the dock’s bottom or hitting “super + a” opens the applications menu.

The settings are spread out a bit. There is the usual Gnome Settings menu with most of the usual options there including your choice of 27 wallpapers. The wallpaper selections provided are mostly toned-down, with many from Debian and have the Debian logo. None have the SpiralLinux logo, so if you want one you will need to make your own. One included wallpaper is a token “not-toned-down” one, a really loud piece of artwork that may appeal to some users.



SpiralLinux 11.220925 with Firefox-ESR

The settings missing from the Gnome Settings menu such as the “appearance” section are found in the Gnome Tweaks application. It is there you will find the choice of five window themes: Adwaita, Adwaita-dark, high contrast, high contrast inverse and the default Numix. Both Adwaita-dark and high contrast inverse are dark themes so that should keep those fans happy. Nine icon themes are also provided.

A lot of what sets Spiral apart from Debian is not visible and, unless you have tried to get Debian working, you may not notice it. Free and non-free firmware, drivers and media codecs are provided. The fonts are there too. Printers are discovered and set-up automatically and the wifi works without scouring though forums for help. Flatpak and Virtual Box are supported, and optimized power management is already configured. Software updates are set and it is possible to switch support from Debian stable to unstable or testing branches instead. As well, upgrades to future Debian releases should happen seamlessly keeping your Spiral installation running.

The free software purists are not going to like Spiral but then most of them don't like Debian either for even offering non-free software, even if it is not installed by default on Debian. On Spiral, it is installed by default.

It is worth noting that Spiral uses the Btrfs file system in place of the more common ext4. Btrfs is a more advanced system for Linux and has some nice features, like system roll-backs, but some reviewers have labeled it “fragile” and noted as recently as August, 2022 that some crashes have resulted in unrecoverable disk corruptions.

Applications

Some of the applications included with SpiralLinux Gnome 11.220925 are:

- *Archive Manager (file-roller) 3.38.1 archiver*
- *Clementine 1.4.0 music player*

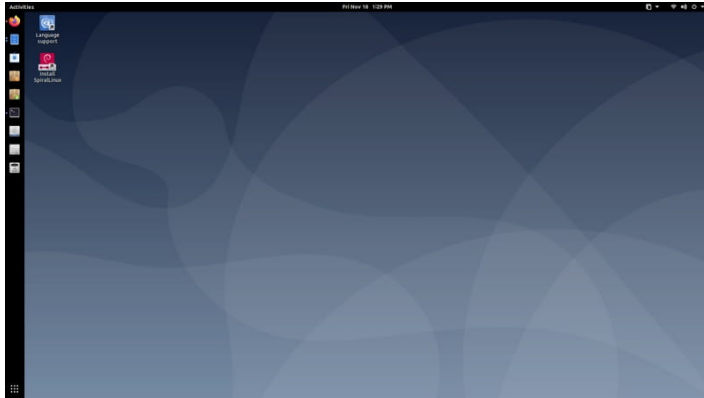
- *CUPS 2.3.3 printing system*
- *Document Viewer (evince) 3.38.2 PDF viewer*
- *Document Scanner (simple-scan) 3.38.1 optical scanner*
- *Files (nautilus) 3.38.2 file manager*
- *Firefox 103.2.0-esr web browser*
- *GDebi 0.9.5.7 package manager*
- *Gnome Disks 3.38.2 disk manager*
- *Gnome Drawing 0.6.4 image editor*
- *Gnome Documents 3.34.0 document manager*
- *Gnome Screenshot 3.38.0 screenshot tool*
- *Gnome Settings 3.38.4 settings manager*
- *Gnome Software 3.38.1 software store*
- *Gnome System Monitor 3.38.0 system monitor*
- *Gnome Terminal 3.38.3 terminal emulator*
- *Gnome Tweaks 3.34.0 settings manager*
- *GPaste 3.38.5 clipboard manager*
- *GThumb 3.3.11.2 image viewer*
- *Gparted 1.2.0 partition editor*
- *Image Viewer (Eye of Gnome) 3.38.2 image viewer*
- *LibreOffice 7.0.4 office suite*
- *Pidgin 2.14.1 IRC client*
- *PulseAudio 14.2 audio controller*
- *Text Editor (gedit) 3.38.1 text editor*
- *Synaptic 0.90.2 package manager*
- *Systemd 247.3 init system*
- *Thunderbird 102.5.0 email client*
- *Transmission (transmission-gtk) 3.00 bit torrent client*
- *Wget 1.21 command line webpage downloader*
- *VLC 3.1.17.4 media player*

The mix of applications is not entirely stock Gnome and not all are based on the GTK toolkit. For instance, you get the Qt-based VLC media player instead of Gnome Videos (Totem) and also the Qt-based Clementine music player instead of Gnome Music.

Being based on Debian 11 Bullseye stable means that even though SpiralLinux Gnome 11.220925 is a September 2022

release, most of the applications are a bit dated and are from Gnome 3.38, although a few hold-overs are even older than that. That is because Debian's focus is on stability over leading edge software and these days that is probably a pretty good trade.

All the provided applications are from the Debian repositories and are .deb files. This includes Firefox, which is why it is the Extended Support Release (ESR) version which Debian packages as a .deb.



SpiralLinux 11.220925 alternate wallpaper

LibreOffice is there, in its slightly dated 7.0.4 version, lacking LibreOffice Base and Math, the database and math formula writer components. Neither are used by most people but can be installed, if needed, of course.

Snap haters will rejoice that the Snap-enabling daemon, snapd, is not installed and this means that there are no snap applications in SpiralLinux by default. Snapd is in the repositories, though, so it should be possible to install it and use Snaps if you want.

Software can be managed from the user-friendly Gnome Software store, the more technical Synaptic package manager or from the command line via APT. Being plugged directly into the Debian 11 stable repository means that just about any Linux application in existence is available. Oddly, some of the

installed applications did not register on Gnome Software as being installed even though APT showed they were.

User Case

At this point, Ubuntu users will be asking “what is the user case here?” After all, installing SpiralLinux Gnome 11.220925 will give you a customized version of Debian, like Ubuntu does, with a desktop with a dock, like Ubuntu, and some older application versions than Ubuntu typically provides. The support and updates are pure Debian, so they should be reliable, but then so are Ubuntu’s.

So, who would use this? I think the main appeal is to users who are avoiding Ubuntu for one reason or another, but who find getting actual Debian working right a bit too daunting. Fundamentally, Spiral is really “Debian-made-easy”.

In fact, the Spiral website supports this concept: “SpiralLinux is a selection of Linux spins built from Debian GNU/Linux, with a focus on simplicity and out-of-the-box usability across all the major desktop environments. SpiralLinux serves as an alternative live installation method for a highly reliable customized Debian system using only official Debian package repositories.”

Conclusions

I think it is fair to say that SpiralLinux meets its aims of providing a customized Debian experience that “just works” right from the download. For the committed Ubuntu user, I don’t think there is a lot of appeal here, but for someone looking for pure Debian that is easier, complete and functional from the start, this new distribution hits the mark.

External links

Official website: <https://spirallinux.github.io/>



***Adam Hunt** started using Ubuntu in 2007 and has used Lubuntu since 2010. He lives in Ottawa, Ontario, Canada in a house with no Windows.*

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Letters

Compiled by Ronnie Tucker

letters@fullcirclemagazine.org

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Q&A

Compiled by Erik The Unready

If you have a Linux question, email it to: misc@fullcirclemagazine.org, and Erik will answer them in a future issue. Please include as much information as you can about your query.

Not all developers are created equal. I had a meeting to do an induction with a new developer. He had not received his machine yet, courier issue, so I proceeded to help him set up his Windows laptop. Just so that he could get his email so long and communicate with his team etc. He had an issue setting up openvpn, so I asked him to share his screen so I could help him. I suddenly had flashbacks of Windows XP computers with icons and folders littering the desktop, all with the single purpose of pirating something. Folders like fix to download spiderman or whatever. Since the machine was also as slow as treacle running uphill, I suggested he do some virus scans. (Installing malwarebytes took 40 minutes!) In the end I continued helping him at a snail's pace with everything freezing so often. To make matters worse, he would unplug the laptop power between

every call, making the laptop even slower. After the roller coaster ride was over I asked him the specs of his machine. He blamed the i3 CPU for the slowness. Though it could be, the fact that the laptop had only 2Gb of memory was what caught my eye. Windows 10 alone may be fine, but running office as well as your frikking huge IDE and 3 different browsers with many open tabs... and you wonder why it freezes? Needless to say I had a good chuckle over a hot cuppa.

Q I was running EndeavourOS on my Thinkpad and the wifi kept dropping. So I went back to Ubuntu. I downloaded 20.04.2 this time and installed that. The problem followed. The big issue here is that it wasn't an issue in 18.04. I checked dmesg to find -> "iwlmwifi expected hw-decrypted unicast frame for station" before it disconnected.

A Your issue has been seen before: <https://unix.stackexchange.com/questions/672005/iwlmwifi-expected-hw-decrypted-unicast-frame-for-station/672006#672006>

Q Mistake by me. Formatted a USB flash drive, which was defined as sdc1. By mistake, when formatting through the terminal, I typed sdb1. Komputer stopped loading.

A Reinstall quick.

Q How can I see that my machines do not have PPA.

A Open your terminal and type: `find /etc/apt -name '*.list'`

Q I have inherited a bunch of 2GB mini SD cards that I want to put distro's on. I am clearing them, then reformatting them. The error I don't understand says - mount: /mydirectory: wrong fs type, bad option, bad superblock on /dev/sdb1, missing codepage or helper program, or other error.

A You could simply use the "disks" application if you run a GUI, or if you are using something like fdisk, remember that you still have to make the filesystem on

the partition, even if it made the partition “Linux”.

Q I hope you can help me, I literally have this laptop and this problem, but it does not work for me. <https://askubuntu.com/questions/708247/cant-boot-into-ubuntu-in-windows-10-ubuntu-dual-boot>

A My first stop would be the UEFI BIOS, and make sure it does not boot to windows under the boot section. I looked at the answer and the XPS BIOS does not look like that. Tap F2 to enter the BIOS and you should see a block marked boot. My money is on the first entry being windows boot manager or something similar.

Q So I ran apt-get update on an older PC that I haven't updated in a long time, but it failed due to a 404 error. (Xenial) Is there no way to get all those updates until they actually died?

A The updates get archived, so it is possible. You need to change the repositories slightly, eg: <http://us.archive.ubuntu.com/ubuntu> xenial-backports < - notice the archive part. (<https://gist.github.com/rohitrawat/60a04e6ebe4a9ec1203eac3a11d4afc1>)

Q I am learning LPI basics at the moment. They taught us about uptime and free. Are there more ways to do this?

A Sure, but for the exam, no. May I suggest looking at the github page for neofetch, it is all bash, to see how he does it. Inxi is another. You could even go 'old skool' and use ls. Try typing lsmem. You gave me an idea for CnC, thank you.

Q Hi, I am still new at this, don't brush me off please. I want to take the output of lsb_release -a and display it in a nice GUI window, but there is an error at the top saying; No LSB modules are available. Is this necessary???

A The computer did what you asked it to do. You can trim the output, for example: lsb_release -crid

Q Is it possible for me to have natural scrolling for my mouse, but not my touchpad? Ubuntu 22.04, Dell 7420, 16Gb

A Not that I know of.

Q This is what I want to do, I want to upgrade from 16.04 to 22.04 without having to go through all the rigmarole in-between. There must be a way. I haven't got time to sit around and play technician. Let me have it.

A Step 1, copy your home folder to an external disk. Step 2, install Ubuntu 22.04 over 16.04. Step 3, copy the contents of your home folder back.

Q Why is it that even if I disable a service, it can start running again? I want to disable, for instance, systemctl disable systemd-oomd.service but it sometimes still rears it's ugly head.

A There has been a lot of discussion around oomd that I did not follow. However, I think your issue lies with systemctl. Just think of systemctl this way, disabling it, just prevents the initial start up. It does not stop other programs calling it. You need to mask it if you want it invisible/unavailable to other programs.

Q My team keeps telling me there is no connection on Ubuntu, but I don't have this issue on MacOS. What is the problem? I tried reinstalling it, but it did not help.

A Just wait, you will have that issue on MacOS. Since teams is basically chromium, you need to exit it completely and remove all the cache files. When you restart it, it will re-populate these files and you can work as normal.

Q My fresh Ubuntu install on a Dell XPS with 32 GB memory and 1TB Nvme is slow and sluggish. On the other hand Windows 11 is greased lightning on it. What can the problem be?

A As I will be transitioning to one soon, I will let you

know, but in my experience, secure boot is usually to blame. Try turning it off and installing again.

Q I have to ask, is there some way I can use facial recognition for Ubuntu? My fingerprint sensor on my laptop is not working under Ubuntu, only Windows, but if I can just open the laptop and it can scan my face, it will be even better.

A I am unsure here, but there is a project doing that: <https://github.com/boltgolt/howdy> If and how it works, is a “mess around & find out” -deal

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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Tabletop Ubuntu:

Written by Josh Hertel

Back next month

Josh Hertel is a husband, father, mathematics educator, tabletop gamer, techie, and geek.
[*https://twitter.com/hertelj1*](https://twitter.com/hertelj1)

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Ubuntu Games: Monster Prom 3 Roadtrip

Written by Erik

Website: <http://monsterprom.pizza/>

Price: \$9.59 USD (GOG/Steam)

Blurb: *“Embark on a road trip like no other in this co-op narrative survival adventure. Visit fun locations, meet wacky characters, and manage your resources wisely. And yes: you still can date some hot monsters ;)”*

Monster prom 3 is a game you can play solo or with up to 4 players.

Before considering this game, know that this game is squarely aimed at “Furries” and while it is not my bag baby, it may be yours!



The main reason I am looking at it, is because it currently has a demo on Steam, where it is rated “Overwhelmingly positive”. I have not played any of the other games in the series, so I cannot compare it to them.

Monster Roadtrip is the third entry in the Monster Prom series

on game. However, this one differs from what I now know about the previous ones, instead of playing through decisions, to accumulate stats and impress specific crushes, you're traveling through the desert to reach a desired "Roadtrip" Destination! The main game loop reminds me of IXION, hold up, hear me out. You travel to a destination, and make a choice or choices that affect your stats, allowing you to move forward or not. The "side gig" in IXION was city building and resource management, and in this it is supposedly romance and resource management. IXION had a real-time feel and this has a visual novel feel.

In Monster Prom Roadtrip, you have six resources you need to keep an eye on as you travel: Hype, Magic, Mind, Money, Soul, and Stamina. Events at every stop will raise and lower these resources based on the choices you make; your job is to keep them above zero to reach the end of the game.



The game is decked out in all the bells and whistles, you have achievement and badges and stickers and whatnot for your meta game-play progression. A lot of effort went into making the game fun and if it were not for them pushing some political agenda, it could have been a lot more fun. That said, this is not a game for the little ones, there are a lot of expletives in the game, I think it is referred to as "strong language" and adult themes.

On the positive side, it runs on a potato. (But you do need a display card, so VM won't cut it) I tested it on a Core2Duo laptop with a Radeon 300? and it runs. So if you have a

machine less than 10 years old, with enough memory, chances are, it will run fine. Ubuntu is officially supported, so there are no installation issues with dependencies etc.

The music in the game tries to keep to a theme and the voice acting is not bad at all. You get to choose between four types of music too, before you set out on your adventure. The music is structured so that it does not feel too repetitive or get on your nerves. (There is even an alternate soundtrack)



The graphics are simple and colourful and do give off a cartoon vibe with smiling characters in almost every frame.

The charm of this game is not in the graphics though, they are all really well done, but in the writing / dialogue. The humour is sometimes completely off the wall. It will have you smiling and grinning to completely sitting back laughing in no time. If you choose an easy difficulty, there is no way for you to fail deep dialogues, so go for crazy. The choices always seem to have a “good” and a “bad” choice, but the “good” choice may have “bad” choices within. The very first turn, you have a choice between a motel and a biker bar. The image of the motel looks run down, the biker bar is all shiny and hovering over each, the tooltips even feel positive and negative. However in the biker bar, you get into a fight, which I doubt would have happened in the motel. Do note, every encounter has the chance to drain one of your stats and raise another, so choose wisely. Though this is one of the core mechanics in the game, it is also the main flaw, as some choices affect one thing this time and another the next, making it feel like you are tied

to a roll of the dice.



Overall, it is thoughtful, providing alternate soundtracks for streamers and trigger warnings for the more adult stuff. If the imaginary issues like pronouns and so forth rile you up, I'd avoid this game, if you can look past that and the swearing, there may be a bit of fun to be had. Is it worth ten bucks? Maybe. It all depends on your sense of humour.

Erik has been in IT for 30+ years. He has seen technology come and go. From repairing washing machine sized hard drives with multimeters and oscilloscopes, laying cable, to scaling 3G towers, he's done it.

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The current site was created thanks to **Lucas Westermann** (Mr. Command & Conquer) who took on the task of completely rebuilding the site, and scripts, from scratch, in his own time. The Patreon page is to help pay the domain and hosting fees. The yearly target was quickly reached thanks to those listed on this page. The money also helps with the new mailing list that I set up.

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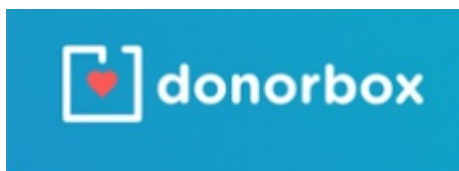
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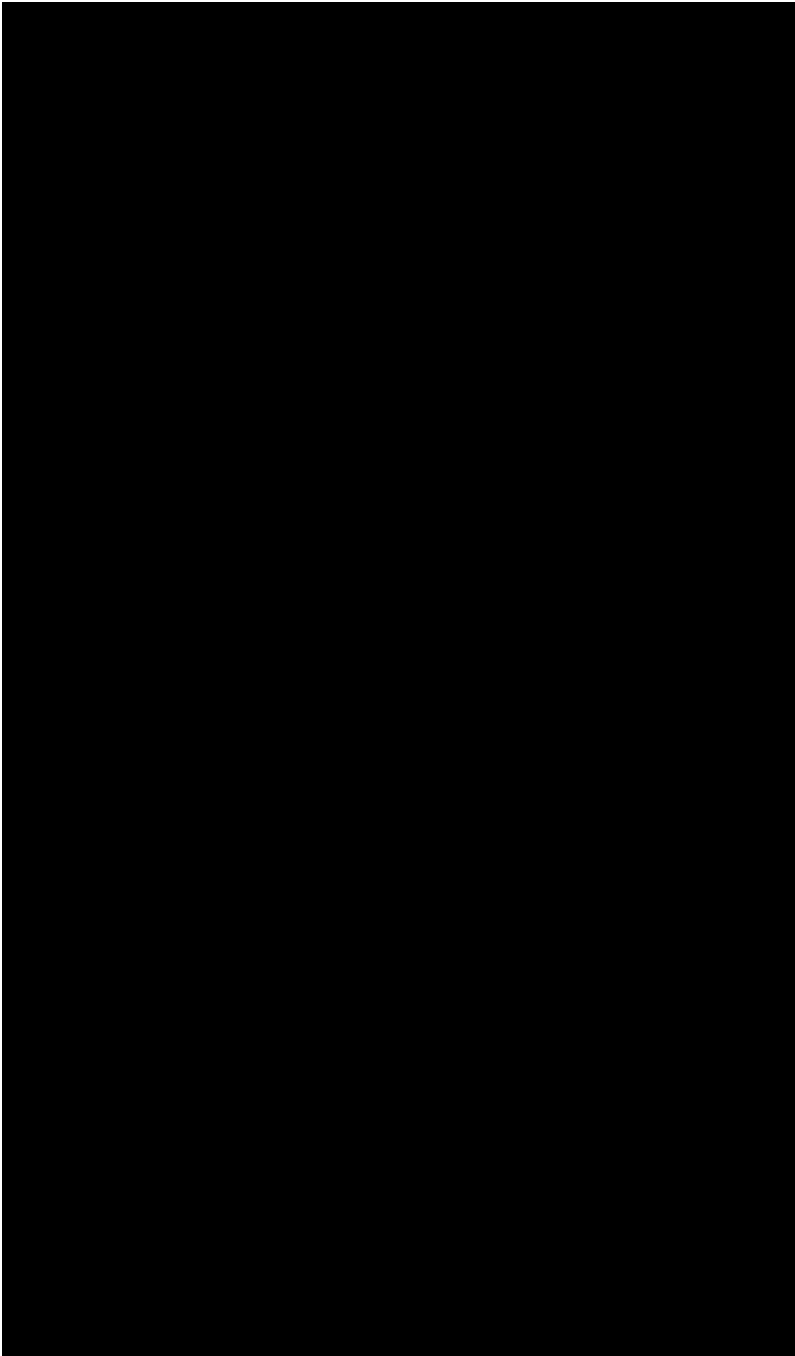


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